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REPORT OF THE COMMITTEE OF THE INDIANA TOWN AND CITY SUPERINTENDENTS' ASSOCIATION

ON

COURSE OF STUDY IN THE PUBLIC HIGH SCHOOLS.

1899

Issued by the
STATE DEPARTMENT OF PUBLIC INSTRUCTION.

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FRANK L. JONES, State Superintendent.

INDIANAPOLIS:
Wm. B. Burford, Printer and Binder.
1899.

INTRODUCTORY.

To the Indiana Town and City Superintendents' Association:

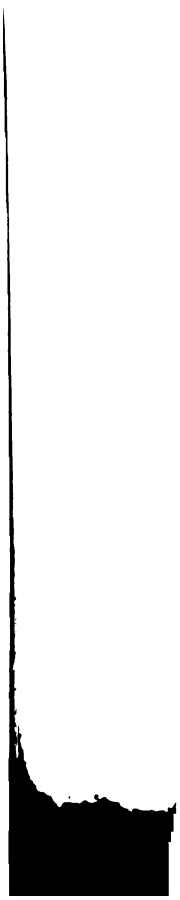
Your committee appointed at the meeting of your Association in November, 1898, to consider the problem of course of study for the high schools of this State, make report herein. The committee desires to explain that its purpose has not been to secure the adoption of the course of study which it suggests so much as to stimulate a general inquiry into the whole question of secondary education on the part of superintendents and high school teachers. It is felt that practical uniformity will be more readily secured through a thorough discussion of the subject than by the adoption of a scheme of instruction which at this distance from school-room conditions must certainly be quite general in its provisions. This report, therefore, is designed to be suggestive rather than final. In view of this purpose the committee has gone beyond the instructions of the Association and made some researches into the status of high school work in this State, and into the literature of the subject. The matter of the report and the investigations made, were assigned to sub-committees, the scope of whose work, and the labor expended, are indicated by the several divisions of the report. Trusting that our labors shall add to the increasing interest in high school education, we respectfully transmit this report.

W. A. MILLS, Chairman.
J. A. CARNAGEY,
C. M. MCDANIELS,
W. H. SANDERS,
J. A. WOOD.

August 21, 1899.

Published by the Department of Public Instruction.
FRANK L. JONES,
State Superintendent.

Re-classed



THE HIGH SCHOOL COURSE OF STUDY.

A. ORGANIZATION OF THE HIGH SCHOOL.

The organization of the public high school must be determined by the nature of the field of education which it occupies, rather than by the character of its relations to other factors of the school system. The high school must take cognizance of the elementary school on the one hand and of the college on the other, but its primary consideration is its function as providing for a fairly defined stage of culture. The high school has certain functions arising from its connection with other grades of school work. It owes to the elementary school the inspiration and finish that come of close correlation of the work of the grades and of the high school. It must prepare young men and women for college. But these functions are entirely secondary to the nurture of youth per se. It is important that the high school recognize its position as occupying a field of education distinctively its own, having a function vitally different from that of elementary school and college. It must concern itself with the right occupation of this field. It will then be in position to establish proper relations with other institutions. The importance of this definition of province, and of organization of the work of the high school in harmony therewith, can not be too much emphasized. In the evolution of the high school it has in some communities served only as a preparatory school to a higher institution of learning to which it was accredited, and in others merely as a continuation in organization and method of the instruction of the elementary school. This subordination in organization and method to the schools above and below is too prevalent at the present time. There is need of better definition of the province of the high school as a basis for determination of courses of study and methods of teaching.

The special province of the high school is the secondary training of the individual. Secondary education is the nurture of the individual through the period of active adolescence. It does not cover

the entire adolescent period, but that portion of it in which the youth experiences rapid transformation of mental and physical constitution. The principles which are to determine the nature of high school work are to be derived primarily from the nature of adolescence. The high school should in organization and method have its foundation in the psychology of adolescence, viewed in its larger social aspects, as well as in its narrower and individual aspects. The special characteristics of this period which the high school must consider are:

1. The early adolescent years are the nascent period for the exercise of the understanding, for the turning of mind toward underlying principles, and for the training of right habits of thinking.

2. At this period the individual has an abundant supply of energy compelling expression through some avenue, and requiring increasingly intense activity in order to foster the supply and give it right direction.

3. A species of introspection leading the individual to question carefully all relationships in which he may be concerned and the worth of all activities into which he is invited. This characteristic of mind requires both encouragement and restriction. Its appearance marks the advent of new and potent tendencies, both social and moral. It also marks the advent of the period in which habits of action are fixed.

The secondary period is therefore the nascent period for the development of habits of thought and action, and for fixing tendencies of life, but it is also a period of intense emotion. The individual is propulsive, imaginative, unsettled. These characteristics furnish a part of the data for the determination of the organization of the high school. They demand proper cultivation at the hand of the school, and place a limitation upon the possibilities of its course of study and methods of instruction.

In the formation of the course of study for the high school it is first necessary to determine what studies are secondary and have right to a place in the curriculum. The definition of Dr. Nicholas Murray Butler is offered in this connection. A secondary study is (1) intrinsically or (2) by treatment, (a) comparative, (b) of in-

creasing difficulty, and (c) reflective. These conditions are to be satisfied by the nature of the subject-matter or by the method of treatment. Some studies are by their nature secondary and can not be presented as elementary subjects. Some are elementary and can not be presented as secondary, while others may be treated either as secondary or as elementary. Algebra is an illustration of the first, "sailor geography" of the second, and English grammar of the third. Latin and German may be taught either as elementary or secondary, but the method of treatment in the one case differs radically from the method in the other. The definition offers safe ground for discrimination. The high school study must be comparative—that is, it must require comparative methods of study. It must exercise inference, evaluation, generalization, discrimination, association, dissociation. It must also be of increasing difficulty, using up the entire stock of energy and requiring the continued best effort of the student. It must be reflective, appealing to the understanding, looking toward underlying principles. All studies which are not at the same time rational, comparative and of increasing difficulty, should be excluded from the high school course of study on the ground of inadaptation. The same principle applies equally to methods of instruction employed. High school method is essentially comparative. The study of any subject in secondary schools by the same plan of instruction that is employed in the elementary school is wrong in principle and barren of results. There must be a vital change of method in passing from elementary to secondary instruction. The spirit and method of the primary school must not be continued into the high school. However, there is greater danger of attempting to introduce the methods and studies which properly belong to the college. Illustrations of this tendency to invade the field of college education are to be seen in the attempt to do research work in science, the introduction of fine microscopic work in biology, the formal study of logic, ethics and psychology, and the higher mathematics.

The secondary period in the development of the pupil begins ordinarily with the seventh year grade of the conventional school system. All the conditions of secondary school work, especially so far as relates to methods of instruction, apply to the seventh and eighth year grades as well as to the high school. In these grades the common school subjects are properly continued, but under the

comparative method of treatment. The incorporation of these grades into the high school organization will go far toward the promotion of right attitude toward the subject-matter, a better school spirit, and truer methods of study and instruction. Such incorporation will also secure a real articulation of the high school and the grades. The best preparation of the pupil for the work of the high school grades is the comparative study of the subject-matter assigned to the upper grammar grades. Many of the failures of high school pupils are due to the lack of practice in comparative study preparatory to taking up the more difficult subject-matter of the ninth year. Better finish will be given the instruction of the elementary school, and, at the same time, better preparation for the distinctively secondary subjects, by such comparative study of the common branches, deferring the study of a foreign language and of algebra and geometry to the ninth grade.

The function of the high school is twofold, disciplinary and "selective." The disciplinary function looks toward the development of the individual into a symmetrical manhood, so far as his nature will permit. The "selective" function requires that the work of each pupil shall at the same time be adapted to his individual characteristics, and lead toward the sphere in life which he expects to enter. The development of a path in life, or at least the opening to view of a path in life, is an important function of the high school. The primary object of the high school is the development of proper habits of thought and action. The ability to think well and the habit of thinking are the best product of the secondary school. Mental, moral and social discipline must remain the first consideration in high school management. Receiving the individual at the time when he "enters upon the full inheritance of man," it should endeavor to develop him into typical manhood. But at the same time the high school can not ignore the fact that the majority of its graduates have a fairly defined life-purpose in view, which should meet with encouragement in the school. Whether the pupil purposes to enter upon a college career or to engage in some form of employment, his high school course of study should give him all the preparation within its power, while at the same time giving him mental and social discipline. Further, the high school must adapt its work to the individuality of the pupil if it would conserve his possibilities to the fullest possible extent.

The disciplinary function of the high school requires that the studies arranged for the pupil shall be so grouped as to satisfy the following conditions. They shall give exercise simultaneously to—

A. (1) Thought, (2) feeling, and (3) action;
B. (1) Subjective, and (2) objective thinking;
C. (1) Language power, (2) deductive thinking, and (3) inductive thinking.

This means that at any time the student shall be engaged upon such group of studies as will give him exercise in proper proportion in all the above mental functions. The course of study combined with the school life should be so ordered that there is proper balance of thought, feeling and will culture; that the student is practiced in both subjective and objective thinking; that he learns to inject his personal equation and again to eliminate it from his thinking; and that there shall be developed a sufficient language power and correct habits of both inductive and deductive thinking. Having selected those studies which of right belong to the high school, the problem is to effect such grouping of them in the curriculum as will satisfy the above conditions. No one study, nor any one line of study—that is, no one department of work—can satisfy all of these conditions, and therefore can not be pursued alone. Studies differ in the character and degree of activity called forth in the student, and therefore have not the same educative value. Studies are not equivalent—that is, any study pursued for a given time with a given degree of earnestness, is not of equal value with any other study pursued for the same time with the same degree of earnestness. The assertion that a year of science is as valuable for discipline and practical outcome as a year of mathematics, or that one year of one science is as good as a year of any other science, is wrong and fraught with mischief. The doctrine of the equivalence of studies involved in the maxim, "It matters not what the pupil studies, but how he studies," is false pedagogy. It is not true for any stage of education. Much less is it true for the high school, which engages the individual at the time in his development when he is forming his mental attitude and habits of thought. Nor is the pupil's predilection for one study as against another sufficient reason for permitting him to concentrate his time and energy upon that subject to the exclusion of others while in the high school. The doctrine that greatest interest should be the selective principle

in arranging the course of study for pupils is fallacious. Special interest in one study does not mean necessarily that the pupil has a special aptitude for that subject as against others. Rather it means that at that time the pupil has realized a greater mastery of that subject than of others. Interest is not so much a preliminary condition of successful study as an index of the degree of success realized by the pupil. Interest is an end rather than a means of study. It is a result of attention rather than a preliminary condition.

The time factor in the educational process is of vital importance. The realization of any body of truth requires a period of time sufficient for proper assimilation and appreciation. No study should be pursued for a less time than one year. A half year is not sufficient for a profitable mastery of any high school study. This, however, does not apply to such subjects as are primarily "applications" of other studies previously mastered. A half year may be sufficient for arithmetic after the pupil has completed algebra and geometry, or for grammar after the courses in language and literature have been finished. But one year is short enough for a course in physics or chemistry. The unit of credit may be the half year, but the unit in framing the course of study should be the year of nine months, five daily recitations of forty minutes each per week. Of these five recitations four should be prepared and one unprepared matter, in the first and second years at least. By providing for one unprepared recitation per week, the pupil is relieved of much of the drudgery of school life and at the same time permitted greater concentration upon his studies. The unprepared recitation provides for a systematic arrangement for reviews, examinations, drills, lectures, sight reading in language, etc., which gives the pupil the advantage of the extra study time in the regular preparation of his lessons. The pupil should regularly carry four full-time subjects, or the equivalent, unless physically or mentally defective.

Following the position taken in this report, the requirements for graduation should be as follows:.

1. Thirty-two half-year credits for work.
2. Two twenty-minute periods per week of physical culture.
3. One hour per week of music.
4. Such number of public literary performances as the conditions existing in the particular high school make feasible.

The thirty-two credits required for graduation should be distributed as follows:

1. Language, $5\frac{3}{5}$ credits.
2. Mathematics. $5\frac{3}{5}$ credits.
3. English, $7\frac{1}{5}$ credits.
4. Science, 4 credits.
5. History, $5\frac{3}{5}$ credits.
6. Electives, 4 credits.

Total, 32 credits.

The "selective" function of the high school requires that in determining the particular grouping of studies for the individual student, regard shall be had for the immediate purposes which he may have in mind. The same course of study is not equally valuable for all students. This requires a flexible course, giving such options as will permit the student to make his high school work count directly on his immediate career. The two functions, the disciplinary and the "selective," will be fully satisfied by a course of study in which the pupil is required to do a stated amount of work in each department of instruction, but within each of which departments he shall have some option between subjects. However, within each department of instruction there are certain subjects which are alphabetic in their relation to higher subjects of study—that is, are so essential to thorough mastery of other subjects in the department and to the demands of general culture that they must be required of all pupils. These several conditions will be satisfied in a course of study which is (1) "required" in the distribution of work necessary for graduation, (2) "prescriptive" in respect of certain alphabetic subjects, and (3) "elective" in respect of the options offered within the limits of the departments of instruction and certain general election permitted in securing the complement of credits. The course of study suggested in this report is formulated on this plan. But the options offered must be interpreted as not designed so much to permit election to the student as for the purpose of giving the principal greater freedom in adjusting the course of study to the particular needs of the individual student. This committee must not be understood as recognizing the fitness of the high school student to make a rational selection of studies for himself.

The interval of promotions to and in the high school must depend upon local conditions. These can not well occur oftener than

once a year unless the number of teachers and students is sufficient to justify two sections or classes in each grade of the high school. Semi-annual promotions are inadvisable in high schools whose numbers and resources will not permit at least two sections in each grade. Small school systems having semi-annual promotions in the grades may easily obviate the necessity of admitting pupils to the high school twice a year by careful adjustment of classes in the seventh and eighth years.

This report recommends that emphasis be placed upon the necessity of the physical training of high school students. Some provision should be made for such training under the supervision of a teacher possessing at least an elementary knowledge of the principles of physical culture, either in the form of a high school gymnasium or a system of school-room gymnastics. The committee would further recommend the value of elementary instruction in military tactics, not for any special civic purpose, but for the peculiar culture which comes to the adolescent from such instruction. This instruction is equally valuable for young women. The committee does not recommend the encouragement of athletics as a means of physical culture. The strenuous training required for the contests of athletic organizations is considered injurious to young men of the high school grade. This objection does not apply, however, to the playing of vigorous games, as football and baseball.

It is the opinion of the committee that the charge of overwork popularly lodged against the high school is not well founded. Most cases of nervous disorder and other forms of illness prevalent among high school students are due to social dissipation and unhygienic living rather than to overwork in school. The committee recommends that teachers endeavor to cultivate a wise public sentiment with regard to the social life of students and the unhygienic condition of home and school, instead of weakening their courses of study.

The high school by its nature should serve as a center for the organization and control of the culture agencies of the community at large. Night schools, lecture courses, extension classes, art exhibits, reading and other study clubs, so far as possible, should be organized from the high school as a center.

Students preparing for entrance at college may be permitted to arrange a special grouping of studies looking directly to the insti-

tution which they desire to attend, in so far as the resources of the school are adequate. Any one-sidedness resulting from their high school study will quite probably be corrected by their course in college. But in the case of students for whom the high school is the finishing school, it is urged that there be no deviation of consequence from the plan of distribution of studies suggested. Any one-sidedness in their training can not be corrected by further schooling. At the same time it is the opinion that the best training for life is also the best training for college.

B. STATEMENT OF COURSE OF STUDY BY DEPARTMENTS.

I. Department of Language.

The courses outlined in language are planned in view of the requirement of three years of language study. Courses are suggested in Latin, Greek, French and German. It is the judgment of the committee that students should be given an option between the languages which the high school offers. It is appreciated that the courses suggested are not in themselves entirely equivalent in educational value, but it is thought that the conditions of interest, parental attitude, and other conditions affecting the degree of effort of the pupil, will secure approximate equivalence if all courses are taught by the comparative method.

COURSE IN LATIN.

1. Elementary Latin. A beginner's book with study of simple selections from Latin literature. Elements of grammar as made necessary in the matter read. Large practice in translation.
2. Caesar. Four books, with double translation and special study of constructions and indirect discourse. An equivalent for Caesar may be substituted.
3. Cicero. Six books, with special emphasis upon style in translation and a general study of Roman literature.
4. Vergil. Translation of six books of the Æneid, and history of Latin verse.

(If but three years of Latin are taken, use courses 1, 2 and 3.)

COURSE IN GREEK.

1. A beginner's book, followed, if time permits, by the reading of easy selections from Xenophon.
2. Three or four books of the Anabasis, or two of the Anabasis and two of the Hellenica, with plentiful exercise in prose composition and some study of Greek history.
3. Three or four books of Homer, either Iliad or Odyssey, with careful study of forms and the heroic meter, and a general view of Greek literature.

COURSE IN GERMAN.

1. Elementary German, using a beginner's book, supplementing the same with Guerber's Märchen und Erzählungen, and Storm's Immensee.
2. German Grammar, and reading of Höher als die Kirche, Aus dem Leben eines Taugenichts, Der Neffe als Onkel, and Der Bibliothekar.
3. Prose composition, and reading of Der Fluch der Schönheit, Wilhelm Tell, Hermann und Dorothea, Minna von Barnhelm. A general view of German literature.

COURSE IN FRENCH.

1. A standard course in elementary French, with exercise in composition, and the reading of L'Abbe Constantin and kindred selections from French literature.
2. Continue the study of French grammar, and read Madame Therese, Coppee et Maupassant, and Contes de Daudet.
3. French composition, and reading of Hugo's Hernani, Moliere's Le Bourgeois Gentilhomme, and Racine's Athalie.

II. Department of Mathematics.

1. *Algebra.* Daily recitations for one and a half years. Special emphasis on fundamental processes, factoring, reduction of equations, powers, roots and logarithms.
2. *Plane Geometry.* Daily one year. Special emphasis on methods of proof, definition, etc. Geometry is regarded as of chief value in developing the art of conscious reasoning.

3. Solid Geometry. One-half year.
4. Arithmetic. An intensive study of arithmetic, with business applications. Daily for a half year.
5. Bookkeeping. Daily for one year. This course should include, also, practice in business correspondence, a study of commercial paper, the primary transactions involved in banking, clearances, exchange, insurance, building and loan business, taxes, and the elements of commercial law.

III. Department of Science.

1. *General Botany.* Life relations, gross anatomy, forms, distribution and identification of plants. Laboratory, daily for one year. Or,
2. *Zoölogy.* A course in the anatomy, physiology, forms and distribution of animal life. Daily in laboratory for one year, following some standard manual.
3. *Physics.* A course in elementary physics, using text and supplementing with laboratory practice. Daily for one year. This course presupposes the completion of two years of mathematics.
4. Chemistry. Elementary general chemistry, daily for one year. This course presupposes the completion of Courses 1 and 3 or 2 and 3.
5. Physical Geography. Daily for a year, using text, but placing emphasis on field work.

IV. Department of English.

1. *Composition-Rhetoric.* Two days per week through the year. Practice writing with special study of the paragraph and sentence. Develop principles of clearness, coherence, sequence, and unity. Make whatever review of grammar may be necessary to intelligent class work.

   Literature. Three days per week. Study in class Irving's Sketch Book, Addison's DeCoverley Papers, and Scott's Lady of the Lake. These classics may be supplemented by short selections from Burns, Bryant and Holmes.

   Home Reading. Hawthorne's House of Seven Gables, Lowell's Vision of Sir Launfal, and Cooper's Last of the Mohicans.

2. *Composition-Rhetoric.* Two days per week. Composition practice and special study of choice of words.

   Literature. Three days per week. Study in class Merchant of Venice, The American Scholar, Sohrab and Rustum, and Enoch Arden.

   Home Reading. Ivanhoe, Vicar of Wakefield, and Tales of a Traveler.

3. *Composition-Rhetoric.* One day per week. Special study and practice in narration, description and exposition. Drill in writing episodes and criticisms.

   Literature. Two days per week. Study of Silas Marner and The Scarlet Letter as types of the novel. Special study of the novel as a form of literature. Study Wordsworth's poetry, supplementing with selections from Tennyson.

   Home Reading. Vanity Fair, The Princess and David Copperfield.

4. *Literature.* The history of English and American literature, studied both chronologically and intensively, following some standard manual and introducing such selections from classics not previously studied as will give the student a conception of our literature as a whole. Themes one day per week through last half year.

   Home Reading. Emerson's essays on Compensation and Self-Reliance, Holmes's Autocrat of the Breakfast Table, Pope's Iliad, and Macaulay's essays on Milton and Addison.

V. Department of History and Sociology.

1. *Greek and Roman History*, with brief introductory study of the history of the Egyptians, Chaldeans and Hebrews. Daily through second year.
2. *History of France and England*, with incidental study of the beginnings of other modern nations. Four days per week through the third year.
3. An intensive study of American history, developing the points of contact with world history, and a view of the tendencies of American life revealed in the history of our country at the present time. Special emphasis of constitutional history and of the organization of state and national governments.

4. Sociology. A course in the elements of society, with research work in the immediate vicinity of the student.
5. Commercial Geography. Daily one-half year.

VI. Department of Art.

1. Principles of Perspective. Pencil and charcoal sketching. Theory of light and shadow. History of ornamentation. Geometric drawings. Application of plant, vegetable and life forms to decoration. Theory of color; studies of still life in color. Daily for one year.
2. Projections. Architectural perspective. Isometric and cabinet drawing. Shades and shadows. Outdoor sketching in charcoal and color. Original designing. Use of plates. Flat work after skilled workers. Daily for one year.

C. DISCUSSION OF COURSE OF STUDY.

The subjects italicized above are prescribed for all students. The prescribed work contemplated comprises a year and half of algebra, a year of geometry, a year of physics, two years of history, one year of biological science and four years of English. The required work which is prescribed as to department but otherwise optional, comprises three years of language, a half year of mathematics, one of science, and one of history. The work for four credits is elective, but the committee recommends that the student be encouraged to make this election in the departments of science, history and art.

The number of languages which the high school may properly open to the option of students will depend upon the number of teachers and the size of classes. A school employing four teachers can offer instruction in two languages; if six teachers are employed, three languages may be offered. The committee is of the opinion that the student should be required to pursue one language three years rather than one language for one year and a second for two. One year is entirely inadequate for the profitable study of any lan-

guage. All schools that are unable to give more than one language should require Latin. Extreme care should be taken to avoid rote teaching of language in the high school. It must be remembered that the function of secondary language study is the development of language power rather than the mastery of a new vocabulary. Conversational exercises are valuable in part, but on the whole the method should be comparative and intensive. In this manner greater equivalence may be secured, and three years of modern language made approximately equal to the same time spent on Latin. The first two years of Greek will prepare for almost any Western college, and at the same time give the student a fair grounding in the elements of Greek. If special attention is paid to the English derivatives from the Greek, this will prove valuable in the study of science. The third year will complete preparation in the subject for any college and give a fair course for those who can not longer remain in school. The course in Greek is prepared by Dr. H. M. Kingery, of Wabash College. Credit for suggestions on German and for the course in French is due to Prof. G. L. Swiggett, of Purdue University. The course suggested in German is probably fuller than most high schools will be able to do, thus leaving the teacher free to select the material which she can best use.

Students preparing for college should take Courses 1, 2 and 3 in the department of mathematics. Courses 1, 2, 4 and 5 of mathematics, and Courses 4 and 5 of history, in addition to other required work, will constitute a substantial course in commercial training. There is a very general demand for commercial courses in our high schools. The demand is reasonable and should be respected in the organization of courses of study. The high school owes to the community that the young men who for any reason leave the class room and engage in business shall receive a foundation for intelligent experience in their vocation. The old commercial course in which a smattering of bookkeeping with practice in spelling and penmanship were the essentials could give but a superficial training. The student should be given a conception of the business world about him and the more important principles underlying commercial activities. A commercial course should not be considered a means of escape from the severe demands of Latin, nor a device for popu-

larizing the school. It should be one that will demand the best effort of the student and be an equivalent in time and culture for any other group of studies pursued.

The very prevalent tendency to bring the laboratory of the university into the high school is to be deprecated. The fine microscopic work in place in the college, has no place in the high school, for the reason that the high school pupil has not sufficient power of discrimination nor adequate fund of knowledge to do research work. High school science work should be done by the laboratory method, but the method should be adjusted to the capabilities of the pupil and the nature of the subject under study. If the time that is given to fine microscopic investigation of individual subjects were spent in directing the attention of the student to the natural phenomena around him, we believe that the high school graduate would receive greater inspiration and greater desire to follow lines of research in the university. In botany, particularly, we have given first place too often to the compound microscope. It would be worth much more to have one able to go out into the field and interpret plant life. It is more important to cultivate the powers of observation and comparison than to give facility in the use of the compound microscope. The committee wishes to emphasize the importance of giving fewer sciences and longer time to each. It is an error to cover into the high school all the sciences for the sake of completeness. The problem is not how many subjects are taught, but how many are taught well. It is a mistake to give a half year each to botany and physics in order to have a year for astronomy and geology. The committee believes that at least one year of nine months should be given to each science undertaken. The committee also advises against elaborate equipment of laboratories. The following recommendations of Dr. Stanley Coulter are offered:

Necessary equipment for work in botany, estimated for a group of six—

6 hand lenses	$9 00
18 flat-bottomed watch crystals	40
6 medicine droppers	30
1 gross microscopic slides	90
1 oz. cover glasses	1 00

1 compound microscope, ⅜ and ¼ obj.....	30 00
1 hand microtome.....	7 50
1 section razor.....	1 00
6 reagent bottles alcohol.	
6 reagent bottles glycerine.	
1 reagent bottle iodine.	
1 methyl blue.	
1 cochineal.	
1 Canada balsam.	
1 pound xylol.	

This should be duplicated for every group of six. The compound microscope and microtome may be made to do duty for twelve.

For work in zoölogy, the above equipment and—

6 scalpels.
6 cartilage knives.
6 pr. scissors.
6 pr. forceps, straight tips.

The compound microscope should not be used until the eye and hand lens are exhausted. More apparatus might be used, but that indicated is sufficient for high school work in science, and comprises all that the student can advantageously use.

Dr. J. N. Swan, of Monmouth College, Illinois, has suggested the following as necessary to the equipment of the high school laboratory in physics:

2 sets of weights.....	$5 00	
2 meter sticks.....	1 00	
1 Vernier calipers.....	3.50	
2 measuring cylinders.....	2 55	
3 funnels	55	
3 sets beakers.....	1 65	
5 dynamometers	1 75	
8 wooden balls.....	48	
4 1-in. lead balls.....	1 25	
1 complete set pulleys, etc.....	30 00	
2 tall cylinders.....	1 30	
2 bell jars.....	3 50	
Air pump	28 50	(or less.)
Seven-in-one apparatus	7 00	
20 feet rubber tubing.....	2 00	
3 gas, gasoline or alcohol burners.....	3 00	
Sp. Gr. balance.....	7 65	
2 hydrometers	2 00	

1 tuning fork	50
Violin bow	2 00
8 flasks	1 80
2-pound glass tubing	1 00
3 thermometers	5 25
1 palm glass	75
Spherical mirrors	3 00
1 4-in. prism	40
1 set of lenses	2 50
1 large double convex lens	75
1 color apparatus	1 00
Small compound microscope	10 00
2 magnets	1 00
Vulcanite rod or plate	1 00
Glass rods	50
Electroscope	75
Toepler Holtz machine	15 00
Leyden jar	3 00
4 battery cells	3 00
Apparatus for decomposing water	1 35
1 dozen binding posts	80
Magnetic needle	2 00
Galvanometer	4 00
Resistance box	6 00
Electro magnet	1 50
Dynamo motor	10 00
Induction coil	25 00
Crooke's tube	5 00
Electric discharger	2 00
6-inch Geiseler tube	40
Fluoroscope	5 00
Test tubes	30
2 iron tripods	90
Total	$234 13

All other apparatus needed can be secured in local stores, for a small amount, or constructed by the busy teacher. The equipment suggested comprises practically all that is necessary. The prices indicated are taken from the list of a prominent firm. These prices are subject to discounts, which bring the total considerably lower than shown.

It will be observed that by placing electives to that end it is possible for each student to carry two or even three majors in his high school course. It is thought best to concentrate the instruction in art into a two years' course, made optional with students, and for

which full credit is given, rather than distribute it over the four years of the course, one or two lessons per week, and without credit.

The committee advises against parallel courses, the "Scientific," the "Classical," the "English," etc., and recommends that all groups of studies lead to the same certificate. The object of the scientific and other courses is obtained by the placing of options and electives.

The assignment of work by years which the committee suggests is shown in the following table. The numbers refer to the number of the course in the department, as Latin 1, Mathematics 2, etc.:

YEAR.	LANGUAGE.				Mathematics.	Science.	English.	Art.	History, Social Science.
	Latin.	German.	French.	Greek.					
First Year	1	1	1		1	1 or 2	1		
Second Year	2	2	2	1	1 and 2		2		1
Third Year	3 4 days	3 4 days	3 4 days	2	2 and 3 or 2 and 4 4 days	3	3 3 days	1	2 4 days
Fourth Year	4			3	5	4 or 5	4	2	3 or 4 5

It is thought desirable that this committee recommend courses of study for township high schools. In response to this demand, three are suggested herewith:

I. Two Years' Course for Schools Having Six Months' Term.

1. First Year—

   Algebra.

   Elementary Latin.

   Botany.

   English. Review of grammar as made necessary. Composition practice, and study of the paragraph. Class study of Sketch Book and Lady of the Lake. Home Reading of House of Seven Gables and Last of the Mohicans.

2. Second Year—
   Algebra continued.
   Elementary Latin, with selections from simple Latin literature.
   General History.
   English. Class study of DeCoverley Papers, and selections from American authors. Home reading of The Vision of Sir Launfal and Tales of a Traveler. Continue composition practice, with special study of choice of words.

II. Three Years' Course, Six Months' Term.

1. First Year. As in "Two Years'" course.
2. Second Year—
   Algebra.
   Elementary Latin, half year; Caesar, second half year.
   General History.
   English. Same as in second year of "Two Years'" course, with class study of the Merchant of Venice.
3. Third Year—
   Plane Geometry.
   Caesar.
   General History.
   English. Composition as above. Class study of American Scholar, Enoch Arden, and Sohrab and Rustum. Home reading of Ivanhoe and Vicar of Wakefield.

For the three years' course of township and other high schools having a term of nine months, the committee recommends the adoption of the courses indicated for the first three years of the course for city high schools, with the requirement of Latin. It is also recommended that township high schools having but one teacher doing high school work shall undertake not more than a two years' course. Graduates from the course of two years of six months each should be admitted to the second year of the city high school and given advanced standing. Graduates from the three years' course of schools having the six months' term should be admitted to the

third year of the city high school. Students completing the course recommended for schools having the nine months' term may be admitted to the senior year of the city high school. However, such regulation should not be permitted to interfere with the proper crediting of individual students who may have exceptional ability. But the committee would urge that township high schools aim to do thoroughly a limited course of study rather than attempt to cover all the ground which the city high school undertakes. The final test of the efficiency of the school is not the number of subjects studied, but the number that are studied well. The committee has suggested the minimum of science for the township schools, for the reason that few are equipped sufficiently for science work, and it is thought better to give the time to other subjects in which more efficient instruction is possible.

Instruction in manual training is now generally recognized as an important educational factor. Its beneficial influence has been conclusively shown wherever it has been introduced and conducted properly, by the increased male attendance and the larger proportion of boys graduated. There is no period in the school day when the average student is mentally more active than he is during his shop period. His ability not only to think and see but to act intelligently is developed; he is brought into touch and sympathy with all processes of mechanical construction and acquires skill in performing the elemental manual processes. His character is strengthened by a drill in accuracy, forethought, self-reliance and perseverance in a way that no other department of work can promote. The expense of equipment and the difficulty in getting competent instruction, which have been the serious obstacles to its adoption, have been greatly reduced in the last few years. Sixteen dollars will now purchase a suitable bench, with vise and necessary tools of good quality, for student work. Twenty or twenty-five such benches would be sufficient for a high school giving daily instruction in bench work to as many as eighty or one hundred students. Where two or more students occupy the same bench at different periods of the day, it is desirable to add private lockers for each student. These will cost about two dollars each. Prof. E. H. Sheldon, of the Chicago Manual Training School, and in charge of the Department of Manual Training at Winona, has outlined

the following course, for which the above equipment is sufficient, the course occupying one period of forty minutes per day for two years:

1. First Year. (a) A twenty-four weeks' course in joinery, including practice in truing surfaces, in joining adjacent surfaces and planing two surfaces parallel with each other; practice with lining tools and a study of laying out work; a study in kinds, care and uses of saws; practice in sawing to incise lines, parallel and at an angle to the grain; a study of the styles and uses of chisels; practice in chiseling, parallel and at an angle with the grain; an application of these principles and practice in the uses of tools in making the various styles of halved mortise and tenon, dovetail, spliced mitre and brace joints.

(b) A twelve weeks' course in carving. Such course is well adapted to stimulate the artistic side of the student's nature, besides adding to his skill. This may include exercises with grooving and parting tools, parallel and at an angle with the grain, and curved lines. These exercises may be followed by designs in incise and relief carving.

2. The work of the second year may be started with a course of twenty-four weeks in cabinet work. The students have acquired considerable knowledge and skill in the use of tools. These and new principles and shop methods may be brought out and applied in a thoroughly interesting way. The course should include exercises in planing hard wood, glueing, clamping, sandpapering, filling, shellacing and rubbing. These may then be embodied in the construction of useful articles in hard wood, such as tabourettes, small tables, chairs, and any pieces suitable in design to the advancement of the student. Although the lathe is quite essential to a complete course in pattern work, the remaining twelve weeks may be very profitably spent with nothing more than the bench equipment. This course will involve the study of drafting, splitting, doweling and coring of patterns, core-box, making segment construction and many points involved in the making of machines.

The cost per student for materials for a year need not exceed $1.50 for these courses. The equipment so far contemplates an expenditure of from $320 to $500. With an additional expenditure of $1,500, power in the form of an electric motor or gas en-

gine, twenty turning lathes, a scroll saw and circle-sawing machine, could be added, which would greatly add to the scope and amount of work accomplished.

The following includes fifteen weeks in turning: A study of the construction and use of the lathe in turning between centers, involving the cutting and scraping methods, the development of skill and taste in turning correct shapes and proportions; a study of methods and practice in chucking, turning on screw centers in goblet, cone and ring turning; methods of polishing and finishing. This course can be substituted for the course in carving and a portion of the courses in joinery and cabinet work to advantage.

The committee desires to place special emphasis on certain qualifications generally conceded to be necessary to the preparation of the high school teacher for his work. We believe (a) that the high school teacher should have a college or university education or its equivalent; (b) that he should have special training in the subject which he proposes to teach; (c) that he should have special training along professional lines; (d) that he shall continue to be a student, possessing the spirit of culture. The high school is the finishing school for the masses, and we believe that it is not asking too much that teachers in this department shall enter upon their work equipped with the training of the college or university. If the teacher in the grades shall be at least a high school graduate with some professional training added, it is much more necessary that the high school teacher have greater mental equipment and more thorough professional training. If the teacher in the grades must have a working knowledge of child psychology, how much more essential is it that the teacher in the secondary school should have a clear knowledge of the principles of psychology covering the secondary period, the most critical period in the mental and physical development of the child. The committee disapproves the policy of advancing grade teachers to high school positions as a reward for service. The high school teacher should be judged solely with reference to the demands of high school work. The teacher in the secondary school should be a thorough organizer, in close touch and sympathy with his pupils—a leader, and a man or woman of affairs. During the adolescent years the pupil should come under the influence of a positive, vigorous personality. In the division of this

report devoted to high school statistics it is suggested that the work of the high school is uninteresting to students because it lacks intrinsic worth for them, and for this reason fails to hold them in school through the course. It is in point here to urge that much of the lack of appreciation of the value of high school training arises from poor teaching in the high school. Poor teaching will kill interest because it is not effective. The best possible course of study will fail in the hands of inefficient teachers. There is never want of interest where work is effective, and there can be no abiding interest in any line of activity which does not yield appreciable results. Higher and more far-reaching than the problem of what the high school student shall study is the question of who shall teach him.

W. A. MILLIS,
C. M. MCDANIELS.

HIGH SCHOOL STATISTICS.

COLLECTION OF DATA.

The conditions under which the information presented herein was obtained are doubtless familiar to every superintendent and principal who received one of the blanks sent out by the Sub-Committee on Course of Study. We assume there is no occasion for a discussion of the plan by which the material was collected.

KINDS OF INFORMATION.

As the questions sent out indicated, two kinds of information were sought, one pertaining to the high school in general, and the other to the history of the class of 1899. The former covered a great variety of subjects regarding attendance, etc., as will be seen by reference to Table I. The latter sought to ascertain the facts concerning enrollment in each year beginning with September, 1895, withdrawals each year, with cause for each withdrawal, failures in work and the cause of failures. It also aimed to secure separate data concerning original members of class and additions to the class.

RELIABILITY OF DATA.

The facts concerning the high school in general are, it is believed, accurate and reliable. Most of the items called for are matters of record. A careful study of the information regarding the class of 1899 reveals occasional inaccuracies, chiefly due to the fact that the points called for are not matters of record, and in some instances are beyond the memory of the superintendent or high school principal. Also the material must be taken with some allowance, as part of the items were incompletely reported. But the data submitted are believed to have a value in so far as they indicate approximately the true conditions prevalent in the high schools reported.

SOURCE, CLASSIFICATION AND TREATMENT OF MATERIAL.

All the matter included in this report was collected from commissioned high schools having a four years' course and located in incorporated cities and towns of Indiana. No statistics from commissioned township schools are included.

Eighty-nine schools, 62 per cent. of the commissioned schools of the State, are represented in this report. In compiling the statistics the cities and towns are grouped in four classes. The basis of this classification is the school enumeration of 1899. Class A comprises the cities above ten thousand in population; Class B, five thousand to ten thousand in population; Class C, two thousand to five thousand, and Class D, two thousand or less in population.

The same classification of cities and towns is maintained in both the general statistics and those pertaining to the class of 1899.

In the statistics of the class of 1899 fewer cities and towns are included. The number of cities and towns in each class being: Class A, four; Class B, seven; Class C, fifteen; and Class D, ten. In the table of general statistics the condition of each school is shown separately. In the table showing the data of the class of 1899 only summaries for classes of cities and towns could be shown.

TABLE I. HIGH SCHOOL STATISTICS—GENERAL.

CLASS A—CITIES ABOVE 10,000.

Population of city or town estimated by multiplying the school enumeration by 3½.	Per cent. of enumeration enrolled in High School.	Length of year in months.	Total annual enrollment for year.	Average daily attendance for year.	No. full time gentlemen teachers.	No. full time lady teachers.	Kinds of work done by other than full time teachers.	Recitations. Av. No. per day to a teacher.	No. per week by Supt.	No. per week by Supervisors.	No. per week by other teachers	No. periods per day.	Length of periods.	No. in each subject per week.	Maximum Class. No. of students.	What subject.	Minimum Class. No. of students.	What subject.	Annual Salaries. Science teacher.	English teacher.	History teacher.	Teacher of mathematics.	Teacher of language.	Total annual cost of *instruction* in High School.	Annual cost of heating High School.	Heating and Ventilating. Means.	What system.	Satisfactory?
45,854	2.94	10	386	310	4	7	M.	4–5	0	5	..	6	45–50	2–5	40	H.	7	Greek.	$1,200	$1,200	$1,000	$800	$900	$11,000	.....	.....	.....	....
20,716	7.01	10	415	...	5	4	Dr., M., Bk. K., Pen.	6	0	3	..	7	40	†	55	Bi.	5	German.	900	900	900	700	900	8,200	$100	H. Air.	Smead	No
19,232	4.89	9	269	230	2	4	.....	6	0	0	..	..	40	5	52	Al.	12	Al.	1,000	600	600	1,350	600	4,150	54	Stoves.	.....	No
18,466	7.71	9	407	...	7	5	M., Dr.	6	0	0	0	8	40	5	35	Phy. G.	7	H.	2 t. 1,395	3 t. 1,890	2 t. 1,395	3 t. 1,755	3 t. 2,520	8,855	300	H. Air Fans.	K. & D.	Yes
15,057	7.18	9	309	275	5	4	M.	6	0	1	0	7	45–55	5	36	Al.	12	Latin.	720	675	810	810	810	6,445	400	H. Air.	K. & D.	No
11,812	2.93	9½	99	77	1	4	M.	4½	0	2	.	8	40	2–5	40	Fr. W'k.	3	Latin.	1,000	600	.....	625	550 450	3,300	170	H. Air.	F. & W.	No
11,704	3.28	9	110	95	2	2	.....	5	0	..	..	6	45	5	44	Soph.	21	Sen.	585	540	855	540		2,520	75	H. Air Fans.	P. W.	Yes
10,524	*	9	...	...	3	2	Ger., M., Dr.	5½	0	4	..	7	45	4	...	.....	2.85		405	630	900	630	765	3,540	75	Fur. Stoves.	.....	No

* Insufficient data. †4 per week.

TABLE I. HIGH SCHOOL STATISTICS—GENERAL. CLASS A—CITIES ABOVE 10,000—Continued.

Population of city or town estimated by multiplying the school enumeration by 3½.	Annual cost of Janitor service.	Average annual cost of scientific apparatus.	Total value of scientific equipment owned by High School.	Average annual cost of material *consumed* in laboratory work.	Total annual cost of High School.	Cost per pupil per month based on total annual enrollment.	Cost per pupil per month based on average daily attendance for the year.	Tuition charged non-resident pupils per month.	Average annual cost of library.	Value of High School Library.	Cost of lectures for High School.	Is your course of study prescribed?	Do you offer elective courses?	What courses offered.	If course is semi-prescribed, designate what is prescribed and what elective.	Does your school support a gymnasium?	Does your school have an athletic association?	Does your school publish a paper?	How much time devoted to rhetorical exercises?	Do pupils receive special drill for these exercises?
45,854	.....	....	.....	....	.....	$2 85	$3 55	$2 50	.....	.....	0	....	Yes	With L.; without L.; L. & Gk	Choice bet. Geom. & Physiology.	No	Yes	Annual.	None regular.	No
20,716	$500	$100	$800	$50	$9,050	2 82	.....	2 00	.....	.....	0	No	No	Prescribed: 3 yrs. Eng.; 2 yrs. Math.; 1 yr. Sci.; 1 yr. Hist.		No	Yes	Yes	....	.....
19,232	200	50	1,000	55	4,509	1 91	2 89	2 00	.....	.....	0	Yes	No	Latin, Math., Lit., Science.		No	No	No	None	....
18,466	450	....	1,000	....	9,605	2 62	3 20	2 00	.....	$800	0	Yes	Yes	Latin and non-Latin.		No	....	No	In connection with English.	
15,057	360	100	700	150	7,455	2 76	3 00	2 66⅔	.....	.....	0	Yes	Yes	Eng.-Latin, Eng. Scientific, Latin-Science.		No	No	No	Two periods per month.	No
11,812	165	40	300	25	3,697	3 90	5 00	2 00	$50	500	0	No	No	Part elective.		No	No	No	Lyceum once a week.	
11,704	225	50	250	20	3,190	2 90	3 40	1 00	50	500	0	Yes	No	.....		Yes	No	No	½ day per mo.	No
10,524	200	....	.....	....	.....	.....	.....	2 00	.....	.....	0	No	Yes	German and Latin.		No	No	No	.....	.....

TABLE I. HIGH SCHOOL STATISTICS — GENERAL — Continued.

CLASS B—CITIES BETWEEN 5,000 AND 10,000.

Population of city or town estimated by multiplying the school enumeration by 3½.	Per cent. of enumeration enrolled in High School.	Length of year in months.	Total annual enrollment for year.	Average daily attendance for year.	No full time gentlemen teachers.	No. full time lady teachers.	Kinds of work done by other than full time teachers.	Recitations. Av. No. per day to a t acher.	No. per week by Supt.	No. per week by Supervisors.	No. per week by other teachers	No periods per day.	Length of periods.	No. in each subject per week.	Maximum Class. No. of students.	What subject.	Minimum Class. No. of students.	What subject.	Annual Salaries. Science teacher.	English teacher.	History teacher.	Teacher of mathematics.	Teacher of languages.	Total annual cost of *instruction* in High School.	Annual cost of heating High School.	Heating and Ventilating. Means.	What system?	Satisfactory?
9,565	6.44	9¼	176	152	2	2	Com., M., Art, Ger.	4	8	43	12	7	45	4-5	30	Geom.	10	Lat.	$760	$630	$630	$630	$630	$4,846	$700	H. Water	Gas	Yes
8,620	9.31	10	230	212	2	4	M.	5	0	1	..	8	35-45	2-5	100	Fr.	4	Ger.	500	500	1,200	500	2 t. 1,000	4,300	400	H. Air	Smead	Yes
8,459	7.77	9	188	165	5	0	M.	4	0	5	..	7	40	5	45	H.	17	Lat.	700	650	650	855	700	3,555	.....	H. Air	K. & D.	Yes
8,235	9.56	9	225	188	5	3	M.	5½	0	...	.	7	45	5	...	.....	..	.....	800	800	1,100	800	700	8,800	400	H. Air	Smead	Yes
8,211	7.88	9	185	160	2	3	M., Dr., Al., Eng., Lat.	6	4	12	14	7	30-35	5	60	.....	21	.....	900	450	450	450	450	3,900	400	H. Air	.....	F'r
7,535	8.40	9	181	140	3	1	.....	5¾	0	0	..	8	35-40	5	32	L.	8	Phys.	630	630	720	900	.....	2,955	241	H. Air	K. & D.	Yes
6,884	11.54	9	227	175	2	3	Gram.	6	0	0	3	7	30-40	2-5	90	Al., Phys. Geo.	8	Men. Sci.	720	495	432	405	855	3,357	.....	H. Air	Smead F.&W.	Yes No
6,496	8.62	9	160	124	2	3	.....	6	0	0	0	7	45	5	30	Al.	5	Ger.	720	630	810	630	630	3,420	400	Cin. H. & V. Co.		Yes
6,485	5.28	9	98	84	2	1	.....	6	10	...	..	7	45	5	27	Fr. Wk.	3	Psyc.	810	600	.....	675	.....	2,485	75	Fur'ce	Dir.Ind.	Yes
6,377	14.16	9	258	232	3	3	.....	5	0	0	..	8	35-45	5	45	Fr. Wk.	20	Jr. Wk.	630	630	675	675	1,000	4,195	600	H. Air	Smead	Yes
6,055	6.53	8½	113	91	3	1	Dr.	6	0	2	5	8	45	5	29	Eng.	7	Chem.	600	467	510	510	.....	2,562	25	H. Air	K. & D.	Yes
5,995	8.75	9	150	...	1	4	M., Dr., Ger.	5	10	0	8	7	45	5	62	Fr. Wk.	10	Lat.	675	540	765	540	540	3,060	.....	H. Air	Blo'm., Ill.	Not V'y
5,855	6.45	9	108	93	1	2	Bk. K. Physiol.	6	15	0	10	8	35-40	5	48	Fr. Wk.	3	Lat.	.....	540	765	675	.....	2,805	70	H. Air	Smead	Not V'y
5,712	3.67	9	59	54	2	1	M. Dr.	5	5	5	0	6	45	5	23	Fr. Wk.	11	Sr. Wk.	540	630	.....	900	.....	2,270	50	H. Air	Smead	F'r

TABLE I. HIGH SCHOOL STATISTICS—GENERAL. CLASS B—CITIES BETWEEN 5,000 AND 10,000—Continued.

[3] Population of city or town estimated by multiplying the school enumeration by 3½.	Annual cost of janitor service.	Average annual cost of scientific apparatus.	Total value of scientific equipment owned by the High School.	Average annual cost of material *consumed* in laboratory work.	Total annual cost of High School.	Cost per pupil per month based on total annual enrollment.	Cost per pupil per month based on average daily attendance for the year.	Tuition charged non-resident pupils per month.	Average annual cost of library.	Value of High School Library.	Cost of lectures for High School.	Is your course of study prescribed?	Do you offer elective courses?	What courses offered.	If course is semi-prescribed designate what is prescribed and what elective.	Does your school support a gymnasium?	Does your school have an athletic association?	Does your school publish a paper?	How much time devoted to rhetorical exercises?	Do pupils receive special drill for these exercises?
9,565	$600	$100	$1,500	$100	$6,246	$3 73	$4 32	$2 00	$50	$2,000	....	No	Yes	English, Latin, Science.		No	No	No	Special occasions.	Yes
8,620	400	100	700	100	5,200	1 39	1 50	1 60	100	1,200	$350	No	Yes	Latin-German, Latin, German-English.		No	Yes	Occasionally	.....	Yes
8,459	300	400	1,000	425	4,780	2 90	3 28	1 75	350	3,000	100	....	Yes	Latin or Chemistry.		No	Yes	No	½ day a mo.	No
8,235	500	200	2,000	200	9,900	4 90	5 77	2 66	.....	2,500	....	....	Yes	English, Latin, Mathematics, Science.		No	Yes	Yes	Every Fri. eve.	Yes
8,211	275	25	500	20	4,595	2 75	3 18	2 50	50	300	....	Yes	....	.....	.....	No	Yes	Yes	Con. with Eng.	Yes
7,535	435	25	250	97	3,745	2 29	2 96	3 00	25	1,000	....	No	Yes	Latin or Science.		No	No	No	One period a week.	Yes
6,884	250	....	700	....	3,807	1 86	2 42	2 00	.....	.....	....	Yes	....	.....	.....	No	No	No	Twice a mo.	No
6,496	225	100	1,000	25	4,170	2 88	3 55	2 00	1,400	3,000	....	No	Yes	Latin or German.		No	No	No	None.	.....
6,485	216	60	200	25	2,800	3 17	3 70	1 50	50	380	....	No	Yes	Latin or German.		No	No	Yes	1 hr. per week.	Yes
6,377	330	425	1,000	100	5,225	2 22	2 47	3 00	400	.....	....	Yes	....	.....	.....	No	Yes	No	.....	.....
6,055	90	175	900	50	2,840	2 98	3 69	2 00	.....	100	...	Yes	....	.....	.....	Yes	Yes	No	In connection with English.	
5,995	500	25	100	25	4,000	3 00	.....	2 50	90	800	....	No	Yes	English Class, Science.		No	Yes	No	Every third Friday.	Yes
5,855	175	25	100	10	2,985	3 00	3 50	2 00	.....	100	....	No	Yes	English or Latin.		No	No	No	Not regularly.	Yes
5,712	150	50	300	....	2,520	4 74	5 18	1 00	40	150	....	Yes	....	.....	.....	No	No	No	½ day each 3d Friday.	Yes

TABLE I. HIGH SCHOOL STATISTICS—GENERAL—Continued.

CLASS C—CITIES BETWEEN 2,000 AND 5000.

Population of city or town estimated by multiplying the school enumeration by 8⅓.	Per cent. of enumeration enrolled in High School.	Length of year in months.	Total annual enrollment for year.	Average daily attendance for year.	No. full time gentlemen teachers.	No. full time lady teachers.	Kinds of work done by other than full time teachers.	Recitations. Av. No. per day to a teacher.	No. per week by Supt.	No. per week by Supervisors.	No. per week by other t achers	No periods per day.	Length of periods.	No. in each subject per week.	Maximum Class. No. of students.	What subject.	Minimum Class. No. of students.	What subject.	Annual Salaries. Science teacher.	English teacher.	History teacher.	Teacher of mathematics.	Teacher of language.	Anual cost of instruction in High School.	Annual cost of heating High School.	Heating and Ventilating. Means.	What system.	Satisfactory?
4,956	10.73	9	152	143	2	4	.....	6	10	..	..	7	40	5	25	L.	5	Geom.	$540	$540	$810	$540	$540	$3,800	$200	Steam.	.....	Yes
4,637	6.37	9	80	74	1	3	M.	6	5	3	0	7	40	5	28	Fr.	4	Ger.	490	540	.....	675	490	2,764	175	H. Air	Smead	Yes
4,599	12.55	9	165	150	3	1	Psychol. Meteor.	7	5	..	..	7	45	5	...	.....	...	.....	450	.....	765	495	450	2,160	.....	.....	.....	....
4,476	11.43	9	146	123	2	2	M.	5	10	3	..	8	40-45	5	39	Fr.	6	30 Bkk.	810	630	600	600	.....	3,000	140	H. Air	De.	No
4,427	15.33	8	194	176	3	1	M.	6	10	3	0	7	45	5	45	Geom. Phys.	12	H.	720	480	.....	400	480	2,700	40	Stoves	.....	....
3,951	5.22	9	59	49	1	1	.....	7	5	..	..	7	40-45	5	33	Phys.	2	L.	540	.....	.....	.....	540	1,240	9	Gas Stoves	.....	No
3,941	5.77	9	65	52	1	1	.....	5	20	..	..	6	50-60	3 5	23	Fr.	18	.....	675	540	.....	.....	.....	1,822	.....	H. Air	Smead	Yes
3,909	12.89	9	144	128	1	3	Writ.	4	5	3	..	6	50	5	55	Fr.	10	Sr.	495	540	.....	765	675	2,660	225	Steam	.....	Yes
3,524	12.41	9	125	118	3	1	.....	5	0	0	0	8	35-45	5	56	Fr.	14	Geom.	600	800	500	550	.....	2,450	80	H. Air	Smead	No
3,521	11.33	9	114	95	2	1	.....	6	10	..	..	7	40	3-5	60	Fr.	7	L.	.....	495	630	.....	900	2,425	.....	H. Air	Smead	Yes
3,321	9.37	9	89	79	1	1	.....	6	20	0	0	6	35-40	5	40	Fr.	3	.....	630	.....	405	.....	.....	1,035	90	H. Air	No.	Yes
3,286	14.70	9	138	122	2	3	M.	5	5	4	..	7	40	5	40	.....	20	.....	540	450	540	605	855	3,296	200	Steam	Sep.	No
3,006	7.93	9	68	62	1	1	.....	7	20	..	..	8	45	...	26	Al.	3	L.	500	.....	405	450	.....	1,355	.....	Steam	.....	Yes
2,985	3.75	8	32	25	1	..	.....	9	10	..	..	9	35	5	12	Al.	2	Phys.	.....	.....	.....	.....	.....	1,020	17	H. Air	K. & D.	Yes
2,915	5.76	9	48	45	2	0	.....	6	15	..	20	7	45	5	17	Eng.	7	L.	.....	.....	.....	.....	.....	2,000	100	H. Air	Smead	Yes

2,891	6.90	9	57	50	1	0	.....	9	20	0	3	9	40	1-5	21	Fr.	8	Sr.	.....	.....	.....	.....	.....	990	50	Stoves	.....	No
2,873	7.03	9	60	50	1	1	.....	7	10	3	..	7	40	..	20	Fr.	3	Lat.	720	.....	540	.....	.....	1,500	.....	H. Air	Smead	Yes
2,852	10.18	9	83	...	1	1	.....	5	14	..	..	14	30-40	5	43	Fr.	14	.....	585	585	495	.....	.....	1,665	40	Steam	.....	No
2,810	18.92	9	...	...	2	2	P. C.-M.	6½	10	4	..	7	40	5	30	L.	3	Geom.	630	540		630	810	3,000	.....	H. Air a' d Steam	.....	Yes
2,803	10.48	9	85	75	1	1	.....	6	20	..	..	..	45	5	40	Al.	15	L.	.....	.....	.....	.....	.....	1,775	50	H. Air	P. & B.	Yes
2,670	10.87	9	83	75	2	2	.....	6	20	..	..	..	35-40	5	20	Phys wk.	4	L.	.....	700		450	450	1,600	300	Steam	.....	Yes
2,632	9.21	9	70	. .	..	2	.....	6	20	..	..	8	30	5	36	Fr.	5	Sr.	450		405		.....	1,300	100	H. Air	Smead	Yes
2,516	12.65	9	91	80	1	2	.....	5	10	..	..	6	40	5	34	Fr.	5	L.	540		900	675		2,115	155	H. Air	Smead	Yes
2,436	16.36	9	114	95	3	0	M.-Dr.	6½	10	6	..	8	30-45	5	35	Soph.	12	Sr. wk.	.....	540	.....	630	675	2,005	175	Fur. Stoves	.....	No
2,401	11.06	9	76	65	0	2	.....	6½	20	..	..	8	40	5	..	.....	..	.....	.....	.....	.....	.....	.....	1,710	150	H. Air	Kelsey	Yes
2,341	13.60	9	90	77	2	1	Art.	5	5	6	..	7	40-45	5	32	.....	7	Sr.	630	630	.....	800	.....	2,368	100	H. Air	Smead	Yes
2,289	14.83	9	97	88	1	1	M.	6½	15	0	3	8	45	5	30	Fr.	9	Phys.	675	450	.....	675	450	1,485	50	Steam	.....	Yes
2,261	10.52	9	68	61	2	0	.....	8	15	..	..	8	30-45	5	30	Fr.	6	Sr.	540	.....	675	.....	.....	1,515	.....	H. Air	Smead	Not V'y
2,261	10.00	9	65	60	2	..	.....	7	6		4	8	40-45	...	25	Fr.	4	Ger.	.....	.....	.....	.....	.....	1,600	20	H. Water	.....	Not V'y
2,100	19.00	9	114	100	2	1	M.	6	10	2	..	7	40	5	30	Fr.	19	Jr.	700	450	405	.....	.....	1,755	200	H. Air	*Snread P. & W	*
2,038	23 47	9½	138	96	1	1	.....	4	4	..	..	..	45	...	57	L.	16	P. C.	450	450	540	.....	.....	1,920	235	H. Air	Smead	F'y so.

*Reasonably so.

TABLE I. HIGH SCHOOL STATISTICS—GENERAL—CLASS C—CITIES BETWEEN 2,000 AND 5,000—Continued.

Population of city or town estimated by multiplying the school enumeration by 3½.	Annual cost of janitor service.	Average annual cost of scientific apparatus.	Total value of scientific equipment owned by the High School.	Average annual cost of material *consumed* in laboratory work.	Total annual cost of High School.	Cost per pupil per month based on total annual enrollment.	Cost per pupil per month based on average daily attendance for the year.	Tuition charged non-resident pupils per month.	Average annual cost of library.	Value of High School Library.	Cost of lectures for High School.	Is your course of study prescribed?	Do you offer elective courses?	What courses offered.	If course is semi-prescribed designate what is prescribed and what elective.	Does your school support a gymnasium?	Does your school have an athletic association?	Does your school publish a paper?	How much time devoted to rhetorical exercises?	Do pupils receive special drill for these exercises?
4,956	$200	$200	$600	$100	$4,300	$2 85	$3 10	$2 22	$100	$1,000	0	Yes	Yes	L. and Com.	.....	Yes	No	Annual.	45 min. per day	Yes
4,637	1125	30	250	25	4,088	5 67	5 82	2 00	40	1,000	$200	....	Yes	Ger. and Lat.		No	Yes	Yes	3 per mo.	Yes
4,599	.....	....	300	50	2,210	1 65	1 86	1 66⅔ 2 66⅔	40	100	0	Yes	....	Ger. and Lat.		No	No	No	2 hrs. per week	No
4,476	300	200	1,000	75	3,515	2 60	3 10	1 75	50	500	75	....	Yes	Hist. Civics, Latin.		Yes	Yes	Yes	1 hr. per week.	Some
4,427	125	75	500	85	2,950	1 90	2 06	2 00	.....	600	0	....	Yes	Lat. and Eng.		No	No	Yes	.....	.....
3,951	225	25	175	10	1,484	2 80	3 37	1 50	25	120	0	Yes	....	.....	.....	No	No	No	1 hr. a week.	Yes
3,941	.....	75	500	50	2,200	3 76	4 70	1 67	.....	.....	0	Yes	....	.....	.....	No	No	No	1 hr. a week.	Yes
3,909	0	....	.....	....	3,000	2 55	3 06	2 50	.....	1,000	....	Yes	....	.....	.....	No	No	No	.....	.....
3,524	120	100	500	50	2,700	2 40	2 43	1 50	300	1,800	100	Yes	....	.....	.....	No	No	No	1 hr. per week.	Yes
3,521	270	....	.....	....	3,000	2 92	3 51	2 80	.....	.....	10	Yes	....	.....	.....	Yes	Yes	No	.....	.....
3,321	85	25	300	15	1,825	2 30	2 57	1 75	35	200	....	Yes	....	.....	.....	No	No	No	½ day a mo.	Yes
3,286	420	10	400	10	3,926	3 16	3 50	2 00	35	395	0	Yes	....	.....	.....	No	No	No	Very little.	Yes
3,006	270	10	250	5	1,430	2 34	2 56	2 00	.....	500	....	....	Yes	Lat. or Ger.		No	No	No	½ day a mo.	.....
2,985	28½	20	195	....	1,065	4 30	5 52	1 75	.....	.....	....	Yes	....	.....	.....	No	No	No	.....	.....
2,915	100	10	500	5	2,215	5 00	5 08	1 50	30	3,000	0	....	Yes	Lat. or Ger.		No	No	No	.....	.....

2,891	60	50	450	....	1,100	2 15	2 45	2 00	40	175	0	Yes	....	.....	No	No	No	1 hr. every 2 mo.	
2,873	.....	50	500	25	1,350	2 50	3 00	1 50	.....	200	0	....	Yes	Lat. and Eng.	No	No	No	40 min. a week	
2,852	400	60	275	30	2,135	3 25	3 00	1 50	30	200	....	Yes	....	.....	No	No	No	.....	.....
2,810	240	....	450	15	3,690	3 50	3 75	3 00	100	300	0	....	Yes	Eng. and Lat.	No	No	No	Monthly	Yes
2,803	75	....	400	....	2,000	2 25	2 50	2 00	50	1,000	0	No		All elective.	No	Yes	No	.....	.....
2,670	225	50	400	20	2,200	2 88	3 26	3 00	50	500	....	Yes	....	....	No	No	No	1¼ hr. twice a month	
2,632	270	....	30	....	1,670	2 81	.....	.....	.....	100	0	Yes	....	....	No	No	No	.....	.....
2,516	280	....	400	25	2,575	3 10	3 57	1 60	.....	800	....	....	....	....	No	No	Yes	.....	.....
2,436	150	10	300	50	2,380	2 32	2 77	2 00	120	1,000	0	Yes	....	....	No	Yes	No	½ day a mo.	Yes
2,401	160	75	350	40	2,060	3 00	3 52	2 00	25	275	0	No		Eng., Ger., Lat.	No	No	No	In con. with Eng.	
2,341	140	30	500	45	2,653	3 27	.....	1 33⅓	60	1,200	0	Yes	....	....	No	Yes	No	4 a yr. by each pupil	Yes
2,289	300	60	200	30	1,565	1 80	1 98	1 50	30	50	0	Yes	....	....	No	No	No	.....	....
2,261	50	25	200	10	1,800	2 90	3 11	2 25	20	100	....	Yes	....	....	No	No	No	1 hr. in two weeks	No
2,261	225	25	150	....	1,895	3 20	3 40	2 25	25	100	0	Yes	....	....	No	Yes	No	.....	.....
2,100	125	50	300	....	2,100	2 15	2 34	1 66⅔	100	600	0	Yes	....	....	No	Yes	No	.....	.....
2,038	300	100	300	150	2,305	1 85	2 66⅔	1 25	50	50	0	Yes	....	....	No	No	No	.....	.....

TABLE I. HIGH SCHOOL STATISTICS — GENERAL — Continued.

CLASS D—CITIES BELOW 2,000.

Population of city or town estimated by multiplying the school enumeration by 3½.	Per cent. of enumeration enrolled in High School.	Length of year in months.	Total annual enrollment for year.	Average daily attendance for year.	No. full time gentlemen teachers.	No. full time lady teachers.	Kinds of work done by other than full time teachers.	Recitations. Av. No. per day to a teacher.	No. per week by Supt.	No. per week by Supervisors.	No. per week by other teachers	No. periods per day.	Length of periods.	No. in each subject per week.	Maximum Class. No. of students.	What subject.	Minimum Class. No. of students.	What subject.	Annual Salaries. Science teacher.	English teacher.	History teacher.	Teacher of mathematics.	Teacher of language.	Total annual cost of *instruction* in High School.	Annual cost of heating High School.	Heating and Ventilating. Means.	What system.	Satisfactory?
1,981	12.01	9	68	65	2	0	.....	8	15	0	0	8	40	5	25	Soph.	7	Sr.	$675	.....	$450	.....	.....	$1,525	$42	H. Air	F. & W.	As to t'p.
1,953	15.77	8	87	75	2	0	Music.	5½	15	4	2	8	40	5	35	Fr.	11	Sr.	.....	.....	.....	$400	$600	1,600	60	H. Air	S. & T.	F'r
1,946	15 64	9	87	82	1	1	.....	7	15	..	..	9	35-50	5	24	Fr.	16	Sr.	.....	$765		.....	450	1,755	75	H. Air	K. & D.	F'r
1,917	14.67	9	80	74	1	1	M., Dr.	6+	15	..	5	8	40	5	...	.....	..	.....	.....	.....	.....	.....	.....	1,660	75	H. Air	Smead	No
1,897	14.77	9	80	73	0	2	.....	7	10	0	0	8	40	5	...	L.	..	Geol.	.....	$405	.....	630		1,292	25	Stm. H. Air	.....	F'r
1,837	12.76	8	67	57	1	0	.....	7½	35	0	..	9	30	5	32	H.	6	L.	.....	.....	.....	.....	.....	1,120	36	H. Air	.....	F'r
1,732	14.16	8	60	58	0	2	.....	6½	15	0	0	8	45	5	22	Fr.	4	L.	.....	480	.....	.....	400	1,280	150	H. Air	Smead	V'y
1,718	11.20	9	...	..	0	2	.....	5	10	..	..	6	45	5	...	.....	..	.....	.....	.....	.....	.....	.....	1,250	100	Stoves	.....	....
1,696	10.33	8	50	42	2	0	.....	9	40	0	0	10	30	5	20	Fr.	4	Sr.	.....	.....	.....	.....	.....	900	18	H. Air	K. & D.	No
1,632	16.77	9	78	66	1	1	.....	...	20	..	..	7	30-45	5	25	Fr.	11	Sr.	.....	.....	.....	.....	.....	1,400	.....	H. Air	K. & D.	H'y
1,599	14.44	9	66	54	1	1	.....	6	20	..	..	16	80	5	26	Soph.	8	Sr.	.....	.....	.....	.....	.....	1,350	.....	H. Air	.....	....
1,593	14.19	8	65	55	2	0	.....	6½	15	..	.	8	40	5	24	Bi.	7	Sr.	640		560		.....	1,450	50	H. Air	Smead	Yes
1,501	21.88	9	72	63	1	1	M.	7	15	5	..	10	30	...	30	Fr.	10	Geom.	.....		450	630		1,500	65	H. Air	B. & P.	Yes
1,445	10.65	8	54	46	2	0	.....	6½	15	..	..	8	40	5	26	Fr.	7	Sr.	400		680		.....	1,330	20	Stoves	.....	No
1,487	26.60	9	113	100	0	2	M.	6½	20	2	..	8	35-40	5	36	Geom.	6	L.	630		540	540	.....	1,800	100	H. Air	.....	No

1,449	18.86	8	78	70	1	1	.....	6	15	..	..	8	30-50	5	30	Physics.	7	Arith.	.....	.....	.....	.....	.....	.....	100	H. Air	K. & D.	Yes
1,277	12.32	9	45	41	1	0	.....	9	20	..	3	9	40	5	21	Comp.	6	Sr.	.....	.....	.....	.....	.....	1,350	65	H. Air	K. & D.	Yes
1,263	18.00	9	65	55	2	0	Music.	5+	20	..	1	6	30-60	5	...	.....	..	.....	.....	.....	.....	.....	.....	2,000	60	H. Air	K. & D.	Yes
1,225	21.14	9	74	61	1	0	Phys. Geo.	9	35	..	5	8	40	5	19	Geog.	5	Psy.	.....	.....	.....	.....	.....	855	35	H. Air	Beecher	Yes
1,158	17.22	8	57	48	1	1	.....	8	20	..	..	8	40	5	18	Fr.	5	Sr.	400	400	.....	360	.....	1,160	35	H. Air	Smead	Yes
1,112	26.64	8½	85	75	2	0	.....	6½	15	..	..	8	35	5	35	Fr.	13	Sr.	.....	600	.....	400	.....	1,360	60	H. Air	Boy'ston	Yes
1,095	16.61	9	52	45	2	0	.....	9	20	0	20	.	30-40	5	40	.....	1	.....	.....	.....	.....	.....	.....	1,250	42½	H. Air	Smead	No
1,067	28.19	8	86	78	0	1	.....	8	20	..	52	8	30	5	30	Fr.	12	Sr.	.....	.....	.....	.....	.....	1,280	56	H. Air	K. & D.	Yes
1,018	13.75	8	40	33	1	0	.....	8	30	..	..	8	35-40	5	20	Fr.	10	Soph.	.....	.....	.....	.....	.....	950	30	H. Air	K. & D.	No
1,001	24.12	9	73	68	1	1	.....	5	14	..	..	..	45	5	...	.....	13	Ger.	.....	.....	.....	.....	.....	1,125	50	H. Air	.....	Yes
994	24.49	9	70	55	1	1	.....	6	20	..	..	8	40	5	25	Fr.	8	Sr.	405	.....	405	.....	550	1,400	75	Stoves	.....	No
994	17.65	8½	...	...	1	1	.....	10	35	..	..	12	30	5	15	Fr.	8	Soph.	.....	.....	.....	.....	.....	1,062	60	H. Air	.....	Yes
987	28.36	8	80	70	1	..	.....	7	20	..	25	7	40	5	30	L.	11	Sr.	.....	.....	.....	.....	.....	1,048	.....	H. Air	P.-W. Co.	Yes
938	20.52	8	55	52	1	..	.....	7	30	..	20	8	37-45	5	19	Fr.	6	Sr.	.....	.....	.....	.....	.....	900	40	H. Air	.....	Yes
938	30.22	7½	81	77	2	0	.....	8	34	..	..	8	35-40	2-5	23	Jr.	14	Sr.	.....	.....	.....	.....	.....	980	30	Stoves	.....	No
819	23.50	8	65	61	2	0	.....	7	6	..	..	13	35	5	33	Fr.	7	Sr.	.....	.....	.....	.....	.....	1,120	45	H. Air	K. & D.	Yes
717	24.40	8	50	45	..	1	.....	...	20	..	..	9	35	...	17	Fr.	7	Sr.	.....	.....	.....	.....	.....	1,200	75	Stoves	.....	No
689	21.36	8	48	38	1	1	.....	8	40	..	..	8	40	5	16	L.	2	L.	.....	.....	.....	.....	.....	720	.....	H. Air	.....	Yes
511	20.52	9	30	26	1	1	.....	8	40	..	..	8	30-45	3-5	18	Al.	3	Geog.	.....	.....	.....	.....	.....	1,080	.....	H. Air	.....	Yes
598	32.16	8	55	...	2	0	.....	8	35	..	..	8	25-40	5	25	Fr.	6	Jr.	.....	.....	.....	.....	.....	800	80	H. Air	W. Q. F.	No
455	26.15	9½	34	31	2	0	.....	7½	35	..	..	8	40	5	22	Phys.	11	Jr.	.....	.....	.....	.....	.....	950	20	Stoves	.....	No

TABLE I. HIGH SCHOOL STATISTICS—GENERAL. CLASS D—CITIES BELOW 2,000—Continued.

Population of city or town estimated by multiplying the school enumeration by 3½.	Annual cost of janitor service.	Average annual cost of scientific apparatus.	Total value of scientific equipment owned by the High School.	Average annual cost of material *consumed* in laboratory work.	Total annual cost of High School.	Cost per pupil per month based on total annual enrollment.	Cost per pupil per month based on average daily attendance for the year.	Tuition charged non-resident pupils per month.	Average annual cost of library.	Value of High School Library.	Cost of lectures for High School.	Is your course of study prescribed?	Do you offer elective courses?	What courses offered.	If course is semi-prescribed designate what is prescribed and what elective.	Does your school support a gymnasium?	Does your school have an athletic association?	Does your school publish a paper?	How much time devoted to rhetorical exercises?	Do pupils receive special drill for these exercises?
1,981	$150	$50	$350	$15	$1,732	$2 50	$2 63	$2 00	$30	$300	$0	Yes	....	.....	.....	No	No	No	.....	.....
1,953	40	50	250	35	1,735	2 50	2 88	2 00	125	700	0	Yes	....	.....	.....	No	No	No	.....	.....
1,946	75	50	500	60	1,965	2 31	2 62	3 00	15	100	0	Yes	....	.....	.....	No	No	No	1 hour a week.	No
1,917	50	400	1,500	50	1,835	2 44	2 66	1 66	.....	.....	0	Yes	....	.....	.....	No	No	No	½ day, two wks.	Little
1,897	45	20	50	10	1,372	1 96	2 17	2 00	20	300	0	Yes	....	.....	.....	No	No	No	.....	.....
1,837	45	25	200	....	1,201	2 24	2 63	1 25	15	200	0	Yes	....	.....	.....	No	No	No	In connection with Eng.	
1,732	100	50	200	25	1,575	3 30	3 37	2 50	.....	200	0	Yes	....	.....	.....	Yes	Yes	No	Every second week.	
1,718	60	....	50	....	1,500	3 00	4 00	2 00	.....	100	0	Yes	....	.....	.....	No	No	No	½ hour a week.	.....
1,696	50	5	75	5	1,000	2 50	3 00	0 00	10	200	10	Yes	....	.....	.....	No	No	No	2 hrs. a week.	No
1,632	360	10	250	....	1,860	2 67	3 13	1 50	25	250	0	Yes	....	.....	.....	No	No	No	1 p. m. a mo.	No
1,599	315	....	100	....	1,675	2 82	3 40	.....	.....	100	....	Yes	....	.....	.....	No	No	No	.....	Yes
1,593	200	....	100	15	1,715	3 30	3 89	1 50	.....	100	0	Yes	....	.....	.....	No	No	No	.....	.....
1,501	100	50	350	25	1,700	2 68	3 75	2 50	25	.....	0	Yes	....	.....	.....	No	Yes	No	.....	.....
1,445	110	25	300	5	1,465	3 40	4 00	2 00	5	100	0	Yes	....	.....	.....	No	No	No	½ day each 2d week.	No
1,487	150	50	250	25	2,075	2 01	2 22	1 66⅔	50	300	0	....	Yes	Lat. and Eng.		No	No	No	½ day a month.	A little.
1,449	.....	....	300	....	1,500	2 58	2 85	1 50	.....	600	100	Yes	....	.....	.....	Yes	No	No	.....	.....

1,277	10	75	250	25	1,530	3 40	3 67	2 00	50	200	0	Yes	....	.....	.....	No	No	No	1 day a month.	Yes
1,263	100	10	200	10	2,170	3 71	4 40	2 00	100	500	0	Yes	Yes	Lat. or Eng.		No	No	No	.....	.....
1,225	30	50	450	58	970	1 46	1 78	1 50	20	800	0	....	Yes	Lat. and Eng.-Science.		No	Yes	No	.....	.....
1,158	50	25	140	10	1,260	4 25	5 16	1 50	50	400	0	Yes	....	.....	.....	No	No	No	1 hour a week.	No
1,112	75	....	400	80	1,600	2 20	2 50	1 50	100	500	0	Yes	....	.....	.....	Yes	Yes	No	P. m. twice a month.	Yes
1,095	196	40	200	20	1,508	3 22	3 72	1 25	40	300	20	Yes	....	.....	.....	No	....	Yes	1 hr. per week.	Yes
1,067	40	30	235	10	1,386	2 01	2 22	1 50	50	530	0	Yes	....	.....	.....	No	No	No	1 hr. per week.	Yes
1,018	160	50	200	10	1,150	3 77	4 75	1 50	.....	250	....	....	....	Lat. and Eng.		No	No	No	1 hour a week.	Yes
1,001	100	50	300	....	1,250	1 90	2 17	1 60	25	250	0	Yes	....	.....	.....	No	No	No	.....	.....
994	150	50	200	15	1,650	2 66	3 33	1 60	25	200	60	Yes	....	.....	.....	No	No	No	Occasionally.	Yes
994	160	300	500	....	1,100	2 55	2 75	2 00	25	250	....	Yes	....	.....	.....	Yes	No	No	2 hrs. a week.	Yes
987	40	30	200	30	1,148	1 80	2 00	2 00	.....	100	0	Yes	....	.....	.....	Yes	No	No	.....	.....
938	50	40	125	10	1,000	2 25	2 50	1 75	10	250	0	Yes	....	.....	.....	No	Yes	No	.....	.....
938	75	15	300	....	1,050	1 72	1 93	1 50	15	100	0	Yes	....	.....	.....	No	No	No	½ day every second week.	
819	75	50	200	...	1,235	2 25	2 32	1 50	50	150	0	Yes	....	.....	.....	No	No	No	.....	.....
717	50	50	300	....	1,375	3 42	4 00	2 00	.....	200	0	Yes	....	.....	.....	No	No	No	.....	.....
689	120	50	75	10	1,000	3 00	3 50	1 25	20	125	0	Yes	....	.....	.....	No	No	No	.....	.....
511	50	....	200	....	1,130	4 18	5 23	.....	.....	100	0	Yes	....	.....	.....	No	Yes	No	2 hrs. a month.	.....
598	.....	3	125	20	900	1 95	2 23	1 50	.....	40	0	Yes	....	.....	.....	No	No	No	½ hour a week.	Yes
455	25	25	150	....	995	3 00	3 37	2 00	15	75	0	Yes	....	.....	.....	No	No	No	.....	.....

PER CENT. OF ENUMERATION ENROLLED IN HIGH SCHOOL.

The per cent. of the enumeration that is enrolled in the high school shows some interesting variations. In Class A the highest enrollment is 7.71 per cent. of the children enumerated, the lowest 2.93 per cent., while the average is 5.13 per cent.

In Class B, 14.16 per cent. of the enumeration are in the high school in one city, while in another city, having a population of only 665 less, but 3.67 per cent. of the enumeration are enrolled. The average for the class is 8.19 per cent. of the enumeration.

Class C shows one city with a population of 2,985 that enrolls in the high school but 3.75 per cent. of its enumeration, while another city of the same class having a population of 2,038 enrolls 23.47 per cent. of its enumeration. The average per cent. for Class C is 11.34 per cent. of enumeration. Class D, which includes eleven towns of less than 1,000 population, varies from 10.33 per cent. to 32.16 per cent. of its enumeration in the high school, the average being 19.30 per cent.

As we pass from Class A to Class D the increase in the per cent. of the enumeration that is enrolled in the high school is very marked. This may be partially accounted for by the relatively larger number of non-resident pupils that attend the smaller high schools. Their attendance adds to enrollment, but not to enumeration. But after all due allowance is made there remain evidences of greater interest in secondary education in smaller cities and towns than in larger cities. Recent activity in the development of township high schools indicates that country people and the smaller towns are awakening to a keener perception of the value of high school training.

AVERAGE DAILY ATTENDANCE.

As the statistics were collected before the close of the year, the average daily attendance is estimated in most schools, and it seems in many instances the estimate has been placed high. In some reports the average for the first semester was given as an estimate for

the year. If the estimated attendance is too large, then the cost per pupil per month based on average daily attendance is correspondingly too low.

TOTAL NUMBER FULL TIME TEACHERS.

The total number of teachers devoting full time to high school work is 270; of these 152 are males and 118 females. Two schools in Class C and six in Class D have no male teachers. One in Class B, six in Class C and seventeen in Class D have no female teachers. In the remaining fifty-seven schools male teachers predominate slightly.

MUSIC AND DRAWING.

Under kinds of work done by other than full time teachers, music is named in connection with twenty-six schools; drawing in eleven; bookkeeping in two, and penmanship in two. If this may be taken as the total number of high schools in which music and drawing are taught, these subjects seem not to be receiving the attention that their importance demands. Doubtless instruction in music and drawing prevails more generally in the grades than is indicated by these figures, but the grounds for discarding the work in the high school are certainly not apparent.

AVERAGE DAILY RECITATIONS TO EACH TEACHER.

The average number of recitations per day to each teacher in the schools of Class A is $5\frac{1}{2}$; Class B, $5\frac{1}{3}$; Class C, 6, and Class D, 7. The number of classes taught by the superintendent increases quite regularly with the decrease in size of high school, and in a few instances the eighth grade teacher does some work in the high school.

NUMBER OF RECITATION PERIODS PER DAY.

The number of recitation periods per day in cities of Class A averages 7; Class B, 7 4-7; Class C, 7¾, and Class D, 8¼. The length of these periods varies in cities of Class A in the same school ten minutes, while comparing different schools we find a variation of fifteen minutes. The same variation is observed in the length of the periods in cities of Class B, though here the minimum length is thirty minutes, and the maximum forty-five, each being ten minutes less than the respective periods in Class A. Class C shows a maximum variation in the same school of fifteen minutes, while different schools show a variation of thirty minutes. Class D presents the same extremes found in Class C.

UNIFORM RECITATION PERIODS.

Fifty-nine schools report a uniform period of recitation, thirty report a varying period. Inasmuch as the standing of pupils is generally indicated by the credit system, the question may be raised as to the justice and propriety of the varying period. The preparation of a lesson is governed largely by the time to be given in recitation. If the period for reciting is limited, the time used in preparation is quite certain to be in keeping. Furthermore, the shorter periods necessarily limit discussion and instruction in recitation. It is evident that in subjects assigned to the shortest periods pupils do not receive knowledge and training commensurate with that received from subjects assigned to longer periods. If a credit is given for four and one-half months' work five hours per week in any subject, should not the same time be devoted to another subject for which equal credit is given?

NUMBER OF RECITATIONS IN EACH SUBJECT PER WEEK.

Regarding rhetoric, composition and literature as constituting one subject, all the schools, excepting ten, report five recitations in each subject per week. Three of these have from three to five reci-

tations per week; five, from two to five; one, from one to five, and one, from four to five. One school reports four prepared lessons and one unprepared lesson per week. This latter plan seems preferable. Experience shows that best results attend work on consecutive days in each subject.

MAXIMUM CLASSES.

The answer to the question as to the number of students in the maximum class is not in all cases clear. The question sought to ascertain the largest number of pupils instructed in one group. Some of the answers give, doubtless, the whole number in the year's work, but do not indicate whether they are divided into sections for recitation purposes. It is the belief of the sub-committee that one source of defective work is the attempt to instruct too many pupils in one group, especially in the freshman year. An example of this —not reported in these statistics, however—came under the observation of the members of the sub-committee. Seventy-six freshmen were being instructed in English, algebra, grammar and Latin, the latter by the inductive method—in one group. In this same high school they had half-day sessions. Where the number of students applying for work in any subject exceeds thirty the welfare of the pupils demands a division for recitation purposes. This is particularly true in the earlier years of the high school work.

MINIMUM CLASSES.

Minimum classes are usually senior classes or classes pursuing some elective study. If the small minimum class is the senior class there can be no question about maintaining it. Often, however, it may be united with some other class in some subjects in such a way as to economize time and energy, as well as to increase the interest and value of the work. If the minimum class results from choice of electives, what number of pupils shall be the least for which a class shall be organized becomes a question for consideration. A comparison of the maximum and minimum classes in the same school raises some questions as to the economy and justice of main-

taining classes of such different sizes. Is the teaching energy so distributed as to bring the greatest good to each pupil? Are the interests of the school as a whole best subserved by such an arrangement? Such extreme examples in maximum and minimum classes as fifty-five to five, forty-eight to three, forty to three, and forty to one, must be justified by other than economic grounds or the greatest good to the greatest number. As a rule it would seem that minimum elective classes ought not fall below ten.

COST OF MAINTAINING THE HIGH SCHOOL.

The statistics covering cost of maintaining the high school are of interest in view of the charge that is sometimes made that our high schools are too expensive—that too much of the expenditures for public school education is used in the support of the high school—and also because of recent legislation fixing the rate of tuition to be paid by township trustees for transferred pupils. It must be borne in mind that the total cost here given does not include a great many items that really enter into the cost of a high school education. The interest on investment in land, improvements, apparatus, libraries, cost of repairs, insurance, etc., are excluded. The figures here given cover merely the running expenses.

From the data before us no accurate comparisons can be made as to the relative cost of instruction in the different lines of high school work. We can not assert that it costs more or less to teach history than English or mathematics. The reasons are obvious—lack of specialists, etc. The other items of expense, cost of heating, janitor service, and materials consumed in laboratory work show some striking contrasts. The combined cost of heating and janitor work in one school is about $7.50 per year per pupil, while in some schools it runs as low as $1.00, and in many about $2.50 to $3.50. The material consumed in laboratory work is not less striking in its variations.

COST PER PUPIL PER MONTH.

The cost per pupil per month based on total annual enrollment for the cities in Class A varies from $1.91 to $3.90, and averages $2.82. The cost based on daily attendance for the year varies from

$2.89 to $5.00, and averages $3.50. The average rate of tuition charged non-resident pupils is $2.02 per month. The cost in cities in Class B for the items corresponding to those just enumerated varies from $1.39 to $4.74, and averages $2.99. On the second item the variation is from $1.50 to $5.18, the average being $3.50. The average rate of tuition for non-resident pupils is $2.11. The cost in cities of Class C in the corresponding items varies from $1.65 to $5.67, and averages $2.89. On attendance, the variation is from $1.86 to $5.82, the average being $3.23. Non-resident pupils pay on an average $1.93. The cost in cities in Class D varies from $1.46 to $4.25, and averages $2.61. On average daily attendance for the year the cost varies from $1.78 to $5.23, and averages $3.12. Non-resident pupils pay an average of $1.72 per month.

Statistics are not accessible showing the cost of pupils in private high schools or academies. But it is safe to assume expenses in such institutions for tuition are in excess of the cost in the public high schools, while the quality of the teaching in the private schools is not superior to that of the public schools.

The above figures are conclusive evidence that the rate of tuition fixed by law for non-resident pupils is below the actual cost of maintaining the pupils in the high school.

HEATING AND VENTILATING.

Sixty-four high schools represented in this report are heated by hot air. Twelve are reported as unsatisfactory; thirty-nine, as satisfactory, while thirteen give equivocal answers. Twelve high schools are heated by stoves, all of which are reported as unsatisfactory. Seven are heated by steam. Two are unsatisfactory, and five satisfactory. Two are heated by hot water. One is reported satisfactory, while the other as "not very" satisfactory. Where fans are used in connection with the hot air systems of heating and ventilating, the systems are reported as very satisfactory. We may conclude from the facts before us that a satisfactory system of heating and ventilating is yet to be put into use in the great majority of schools.

LIBRARIES AND SCIENTIFIC APPARATUS.

Forty-seven high schools report libraries estimated to be worth less than $500. Twenty-two have libraries estimated at from $500 to $1,000. Eight estimate their libraries at more than $1,000, the highest estimate on any library being $3,000. Twelve schools fail to give any estimate of the libraries. No data were asked for as to means by which these libraries are supported, but from notes accompanying these reports it seems that their maintenance depends largely upon entertainments and money appropriated by the board from the special school fund. Doubtless the best plan for supoprt of the public school library is to levy a tax. School boards are empowered to levy not exceeding a mill for maintaining public libraries. Even a levy of one-tenth of a mill would place the library on an enduring basis and thus insure to the school one of the most helpful instruments of education at the command of teachers.

A good reference library is essential in order to do satisfactory secondary work, especially in history, English and science. The ability to use a library intelligently and economically should constitute a most valuable part of the high school pupils' attainments. This power can come only from experience and work in a library. It is understood that some of the schools not reporting a high school library have access to a public library in their city.

The estimated value of scientific equipment in many schools is entirely out of proportion to the estimated value of the libraries in the same schools. Twenty-two out of a total of seventy-seven schools that estimate the value of both the library and scientific equipment, place the latter in excess of the former. The total estimated value of scientific equipment in the seventy-seven schools is $28,205, that of the libraries $41,565.

Recent criticism of the status of laboratories in our high schools asserts that they are "over-equipped," and that the majority of high school pupils are incapable of using intelligently the apparatus now in the laboratories. In view of these facts it seems that a readjustment of these two funds so as to give more than is now given to the libraries and less to the purchase of apparatus would be for the best interests of the schools as a whole.

COURSES OF STUDY.

Fifty-eight schools report prescribed courses of study. Twenty-four offer elective courses. A few schools prescribe a given amount of work and offer electives along collateral lines. One school makes the entire course elective.

GYMNASIUMS AND PAPERS.

Ten schools support gymnasiums. Twenty-three have athletic associations. Ten publish papers, and two issue annuals.

RHETORICAL EXERCISES.

In forty-seven schools rhetorical exercises are reported, while in five schools this work is done in connection with the English. Thirty-three schools report no work of this nature. The time given to the work varies from one-half hour to two hours per week. In twenty-eight schools special drill is given for rhetorical exercises, while nine do not give special help in this work. Other schools say "a little" or "some" drill is given. Ability to appear before an audience in declamation, essay or debate, impromptu talks, and other forms of rhetorical exercises ought to be cultivated. The majority of pupils receive only such training in this capacity as the public schools confer. A few exercises each year, in which the pupil has been well drilled, are of sufficient importance to command a part of the regular school time. No number of poorly prepared exercises will take the place of a few well-selected exercises in which the pupil has been thoroughly trained.

PROMOTIONS.

The question relating to promotion brings out the fact that almost all the high schools indicate the advancement of the pupils by credits. It can not be said that promotions are annual or semi-annual. The question does not apply to existing conditions, and for this reason answers given to it are excluded from the table.

6. No. that failed in one or more subjects, but *remained* in school—																				
(a) Original members	4	3	3	1	3	3	....	....	....	....	22	23	12	22	10	12	2	2	46	59
(b) Additions to class	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1	....
7. Cause of failure of those reported in "6"—																				
(a) Inability	1	3	1	....	1	2	....	....	3	5	6	7	5	4	4	3	1	1	16	15
(b) Irregular attendance	....	....	....	1	1	2	....	....	1	3	3	2	....	2	....	....	....	....	3	4
(c) Lack of application	3	....	2	....	1	1	1	1	7	2	9	10	5	9	6	7	....	2	20	28
(d) Ill health	....	....	....	....	....	....	....	....	....	....	1	3	....	4	....	1	1	....	2	8
8. No. that failed in one or more subjects and dropped out—																				
(a) Original members	....	....	....	....	1	1	....	....	1	1	23	21	11	6	10	14	2	....	46	41
(b) Additions to class	....	....	....	....	....	....	....	....	....	....	....	....	4	2	2	....	1	....	7	2
9. Cause of failure of those reported in "8"—																				
(a) Inability	....	....	....	....	....	....	....	....	....	....	2	3	1	4	1	2	....	....	4	9
(b) Irregular attendance	....	....	....	....	1	....	....	....	1	....	6	5	3	1	4	2	....	....	13	8
(c) Lack of application	....	....	....	....	....	1	....	....	....	1	9	6	6	2	4	5	2	....	21	13
(d) Ill health	....	....	....	....	....	....	....	....	....	....	....	4	1	3	....	5	....	....	1	12

TABLE II. HISTORY OF THE CLASS THAT ENTERED IN 1895 AND GRADUATED IN 1899.

	Summary—Class C—Fifteen Cities.										Summary—Class D—Ten Cities.									
	Fr. Year 1895–1896.		Soph. Yr. 1896–1897.		Jr. Year 1897–1898.		Sr. Year 1898–1899.		Total.		Fr. Year 1895 1896.		Soph. Yr. 1896–1897.		Jr. Year 1897–1898.		Sr. Year 1898 1899.		Total.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
1. No. entered in September, 1895, only—																				
(a) For first time in High School	177	245	.....	.....	.....	.....	.....	.....	.....	.....	90	98	.....	.....	.....	.....	.....	.....	.....	.....
(b) Left over from former class	13	18	.....	.....	.....	.....	.....	.....	.....	.....	16	13	.....	.....	.....	.....	.....	.....	.....	.....
2. No. entered in Sept. each year after 1895—																				
(a) Original members of class that entered in 1895	.....	.....	102	150	94	135	69	112	.....	.....	.....	.....	48	81	48	60	35	55	.....	.....
(b) Additions from other schools	.....	.....	18	19	3	6	1	5	.....	.....	.....	.....	7	10	6	3	4	5	.....	.....
(c) Additions from other grades of your school	.....	.....	9	4	3	.....	4	4	.....	.....	.....	.....	4	1	3	2	4	.....	.....	.....
Total enrollment for	190	263	139	173	100	141	74	121	.....	.....	106	111	59	92	57	65	43	60	.....	.....
3. No. of withdrawals during the year—																				
(a) Original members (see 2a)	49	63	18	18	15	16	5	3	.....	.....	83	81	10	14	10	9	7	3	.....	.....
(b) Additions to class i. e., all not in "2a"	4	5	8	5	3	4	.....	1	.....	.....	.....	.....	2	1	3	2	2	1	.....	.....
Total withdrawals for	53	70	26	23	18	20	5	4	102	117	33	31	12	15	13	11	9	4	67	61
4. Causes of withdrawals—																				
(a) Sickness	3	16	2	6	.....	5	3	2	8	29	5	5	.....	7	1	1	.....	2	6	15
(b) Work	13	3	5	4	8	2	.....	.....	26	9	6	4	7	1	5	1	1	.....	19	6
(c) Moved away	6	11	1	6	3	5	1	.....	11	22	3	9	8	2	6	2	3	1	20	14
(d) Discouragement	3	1	2	4	3	1	.....	1	8	7	1	3	3	1	1	.....	.....	.....	5	4
(e) Indifference to school work	12	17	6	2	3	4	1	1	22	24	8	6	2	1	3	.....	.....	.....	13	7
(f) Dislike of prescribed work	4	2	.....	.....	3	.....	.....	.....	7	2	1	.....	2	.....	1	.....	1	.....	5	.....
(g) Dislike of teachers	1	1	.....	.....	.....	1	.....	.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
(h) Hostility to regulations	4	1	3	.....	.....	.....	.....	.....	7	1	1	1	1	.....	1	.....	.....	.....	3	1
(i) Unknown	6	15	2	1	.....	.....	.....	.....	8	16	1	4	.....	1	.....	.....	.....	.....	1	5
5. No. receiving credit for full year's work—																				
(a) Original members	107	150	90	121	68	106	65	111	.....	.....	50	71	43	65	37	52	37	54	.....	.....
(b) Additions to class	6	6	10	7	6	8	2	4	.....	.....	4	5	1	8	3	5	5	4	.....	.....

6. No. that failed in one or more subjects, but *remained* in school—																				
(a) Original members	16	17	13	10	4	9	.....	3	33	39	15	11	11	6	5	4	2	....	33	21
(b) Additions to class	2	2	1	1	.....	.....	.....	.....	3	3	1	2	3	1	2	1	.....	.....	6	4
7. Cause of failure of those reported in "6"—																				
(a) Inability	8	9	6	4	1	6	.....	3	15	22	4	2	.....	2	.....	.....	.....	.....	4	4
(b) Irregular attendance	3	7	2	3	.....	1	.....	.....	5	11	2	4	5	.....	3	.....	1	.....	11	4
(c) Lack of application	7	3	5	4	2	1	.....	.....	14	8	8	8	6	3	3	4	1	.....	18	15
(d) Ill health	.....	3	1	.....	.....	1	.....	.....	1	4	1	1	.....	.....	1	.....	.....	.....	2	1
8. No. that failed in one or more subjects and dropped out—																				
(a) Original members	21	26	10	10	9	3	.....	.....	40	39	18	18	6	3	5	2	.....	.....	29	23
(b) Additions to class	.....	3	.....	.....	2	.....	.....	.....	2	4	1	1	1	2	1	.....	.....	.....	3	3
9. Cause of failure of those reported in "8"—																				
(a) Inability	3	5	1	.....	6	.....	.....	.....	10	5	5	1	2	2	.....	.....	.....	.....	7	3
(b) Irregular attendance	3	2	1	1	1	1	.....	.....	5	4	4	2	.....	1	2	.....	.....	.....	6	3
(c) Lack of application	15	20	8	7	3	2	.....	.....	26	29	8	14	5	1	2	2	.....	.....	15	17
(d) Ill health	.....	1	.....	3	.....	.....	.....	.....	.....	4	2	2	2	.....	.....	.....	.....	.....	4	2

CLASS OF 1899.

As stated elsewhere the statistics comprising Table II can not be regarded as entirely reliable. It is unfortunate that this part of the report is not more complete, yet, when we consider the insufficient data at the hands of the superintendents and principals, and the time and labor requisite for making the report, the result is not disappointing.

DISCREPANCIES IN TABLE II.

On the assumption that the number of withdrawals during the year is the total withdrawals, if the summaries were accurate the total enrollment of boys and girls for any year in each class of cities would equal total withdrawals for year, plus total number receiving credit for full year's work plus the number that failed in one or more subjects but remained in school. Applying this test for each year in the four different classes of cities we find the following results:

In the four cities represented in Class A the sum of the number of withdrawals, the number receiving full credit and the number that failed in one or more studies is less than the number enrolled, as follows: Freshmen, eight boys, twenty-six girls; sophmores, five boys; seniors, one girl. On the same basis the number accounted for is greater than the number enrolled, as follows: Sophomores, nine girls; juniors, five boys and eleven girls; seniors, one boy and one girl.

In the seven cities in Class B these discrepancies appear:

The number accounted for is less than the number enrolled, as follows: Freshmen, eight boys and fifteen girls; sophomores, seventeen boys and five girls; seniors, three girls. The number accounted for is greater than the number enrolled, as follows: Juniors, two boys and seven girls; seniors, four boys.

In fifteen cities in Class C these discrepancies appear:

The number accounted for is less than the number enrolled, as follows: Freshmen, six boys, eighteen girls; sophomores, eleven girls; juniors, four boys. The number accounted for is greater than the number enrolled, as follows: Sophomores, eleven boys; juniors, two girls; seniors, two boys and one girl.

In the ten cities in Class D these discrepancies appear:

The number accounted for is less than the number enrolled, as follows: Freshmen, three boys. The number accounted for is greater than the number enrolled, as follows: Freshmen, nine girls; sophomores, eleven boys and three girls; juniors, three boys and eight girls; seniors, ten boys and two girls.

Internal evidence in some of the individual reports points to different interpretations of the question "number of withdrawals during the year." Some have taken this to mean total number that withdrew from the school during the year. Others interpreted the question to call for the number that withdrew for the "causes of withdrawal specified in Topic 4." Hence the latter did not include in the number of withdrawals those who withdrew because of "failure in work" or for other causes not specified. This will account in part for the deficiencies here reported.

Part of the excesses, at least, may be due to these conditions; a pupil may fail, for example, in freshman year in one or more subjects, and be so recorded, but afterwards remove this by making up his work and the record be so amended as to show the work done and at the same time not indicate previous failure in the subject. Again, pupils may withdraw before close of term and yet receive full credit for term's work.

LOSS FROM WITHDRAWALS.

But while there are inaccuracies in Table II, there are at the same time items that may be regarded as approximating the truth as closely as statistics ordinarily do. We may assume that the figures given for total enrollment for the year and those given for total withdrawals for the year are correct and represent the true status of high schools as regards these two points. On this assumption it appears from the figures before us that during the freshman year, in cities of Class A, 45.6 per cent. of the boys and 28.6 per cent. of the girls enrolled withdrew; during the sophomore year 26.2 per cent. of the boys and 25.8 per cent. of the girls withdrew; during the junior year 44.1 per cent. of the boys and 18.4 per cent. of the girls withdrew, and during the senior year 9.2 per cent. of the boys and 9.2 per cent. of the girls withdrew.

In Class B 21.8 per cent. of the boys and 13.4 per cent. of the girls enrolled during the freshman year withdrew; next year 19.1 per cent. of the boys and 17.6 per cent. of the girls enrolled withdrew. During the third year 23.9 per cent. of the boys and 23.3 per cent. of the girls withdrew, and during the last year 16.6 per cent. of the boys and 3.1 per cent. of the girls withdrew.

In the cities summarized in Class C, 27.9 per cent. of the boys and 26.6 per cent. of the girls enrolled withdrew during the first year; 20.1 per cent. of the boys and 13.3 per cent. of the girls during the second year; 18 per cent. of the boys and 14.3 per cent. of the girls during the third year, and 6.8 per cent. of the boys and 1.5 per cent. of the girls during the fourth year.

In cities summarized in Class D we find that 31.1 per cent. of the boys and 27.9 per cent. of the girls enrolled during the first year withdrew during the same year; during the second year 20.4 per cent. of the boys and 16.3 per cent. of the girls enrolled withdrew; during the third year 22.8 per cent. of the boys and 16.9 per cent. of the girls withdrew, and during the fourth year 20.9 per cent. of the boys and 6.6 per cent. of the girls withdrew.

LOSS FROM ANOTHER STANDPOINT.

We may view these statistics from another standpoint. Notwithstanding the accessions to the class from left-over pupils and from other schools, using each succeeding year's enrollment as a basis for computation, the losses are as follows: In cities in Class A in the freshman year, 46.5 per cent. of the boys and 48.6 per cent. of the girls; in the sophomore year, 44.3 per cent. of the boys and 21.7 per cent. of the girls; in the junior year, 33.3 per cent. of the boys and 14.5 per cent. of the girls. The loss during the fourth year is the same as indicated above in withdrawals.

In cities in Class B in the freshman year, 21.2 per cent. of the boys and 26.3 per cent. of the girls; in the sophomore year, 41.7 per cent. of the boys and 22.3 per cent. of the girls; in the junior year, 28.4 per cent. of the boys and 20.7 per cent. of the girls.

In cities in Class C in the freshman year, 32.1 per cent. of the boys and 34.3 per cent. of the girls; in the sophomore year, 22.4 per cent. of the boys and 18.4 per cent. of the girls, and in the junior year, 26 per cent. of the boys and 14.2 per cent. of the girls.

In the cities in Class D in the freshman year, 46.2 per cent. of the boys and 17.1 per cent. of the girls; in the sophomore year, 3.4 per cent. of the boys and 29.3 per cent. of the girls; in the junior year, 22.8 per cent. of the boys and 7.7 per cent. of the girls.

TOTAL WITHDRAWALS.

Again, if we estimate the withdraws for all the cities of all classes, we find 27.9 per cent. of the boys and 23.8 per cent. of the girls enrolled in the first year withdraw before the close of the school. The loss from withdrawals during the second year is, boys 20.9 per cent., and girls 21.5 per cent. of enrollment for the year.

During the third year the loss from withdrawal of boys was 24 per cent., and of girls 18.6 per cent. of the enrollment. The loss from withdrawals during the fourth year was, boys 12.8 per cent., and girls 5 per cent. of the enrollment.

NUMBER OF GRADUATES.

The number graduating in 1899 is 33.6 per cent. of the number of boys and 44.2 per cent. of the number of girls that entered in 1895. The total number of graduates in 1899 equaled 39.8 per cent. of the number of pupils that entered in 1895. But, in order to find the true per cent. of those who entered in 1895 that graduated in 1899, it is necessary that we have full and accurate data respecting "original members of the class" and "additions to the class." These data are not at hand, since in many of the individual reports from which this summary is compiled no distinction was made between the two classes of students. Doubtless the per cent. of entering freshmen that graduate at the end of four years is much less than 39.8 per cent. It was the hope of the sub-committee to be able to make this point definite, but lack of data prevents.

CAUSE OF WITHDRAWALS.

When we are confronted with the large number of pupils that leave the high school from year to year we involuntarily ask the cause. It is but fair to assume that pupils enter the high school either because they anticipate an interest and pleasure in the work

itself, and expect intellectual, social and financial returns, or in obedience to the wishes of parents who foresee in a high school education a means for entering upon a higher plane of life. What motives can induce or cause so large a number of these pupils to withdraw from school, or what can have wrought upon the parents' minds so as to change their attitude toward the future welfare of their children? Twenty-six and eight-tenths per cent. of the first year's enrollment, 18.8 per cent. of the second, 18.7 per cent. of the third, and 7.8 per cent. of the fourth year's enrollment quit school before the close of the year.

The statistics before us attribute 16.6 per cent. of the withdrawals to sickness, about four-fifths of which is caused by the girls; 16 per cent. to work, a little more than two-thirds of which is charged to boys; 17.6 per cent. to moving away; 7.7 per cent. to discouragement; 17 per cent. to indifference to school work; 3.5 per cent. to dislike of prescribed work; .43 of 1 per cent. to dislike of teachers (What does this signify?); 2.5 per cent. to hostility to regulations, and 14.3 per cent. to unknown causes.

RESPONSIBILITY FOR WITHDRAWALS.

A very important question for the schools to consider in reference to these facts is how far they are responsible for these withdrawals. What per cent. of these who withdraw because of ill health may be charged to conditions prevalent in the schools, such as overwork, bad sanitary conditions, and lack of proper exercise? To what extent is discouragement due to inadequate preparation for high school work, or to failure of teachers to come into close, sympathetic touch with the pupils? Seventeen per cent. withdrew because of indifference to school work. Boys and girls are not indifferent to anything in which they have either a primary or secondary interest. Does our course of study lack the essential quality of intrinsic interest? Are we unable to convince pupils and patrons that the course we offer is of such value to them that they can afford to endure present inconveniences for the sake of future pleasure and profit?

How many of those who leave school for work are really under the necessity for doing so? If they and their parents were convinced that a high school course is a paying investment would not

fewer drop out for this assigned cause? Is there behind the various causes assigned for withdrawal the real cause of lack of confidence in the high school work—a belief that it does not pay—arising largely from a failure on the part of the high school to convince the public that the knowledge and discipline resulting from a four years' course as now offered is the best capital in life's business that may be acquired during these four years? The fact that so many pupils after entering school become dissatisfied and withdraw, calls for an explanation on the part of the schools. Is there a legitimate reason for this condition of affairs? Can we assign a cause that really explains?

Before passing to a consideration of this let us get before us the points contained in Topics 6, 7, 8 and 9 of our statistics.

FAILURES IN WORK.

Excluding, on grounds of incompleteness, the cities in Class A, and studying the failures, including both those who dropped out and those who remained in school, we see that 22.6 per cent. of those enrolled in the freshman year failed in one or more subjects; 17.8 per cent. of the sophomore enrollment failed; 17.4 per cent. of the junior enrollment, and 3.2 per cent. of the senior enrollment failed. In accounting for these failures our statistics show that 33.9 per cent. of the failures are attributed to inability; 16.5 per cent. to irregular attendance; 46.4 per cent. to lack of application, and 7.6 per cent. to ill health.

LACK OF INTEREST IN WORK.

If we consider indifference to school work, which is one of the chief causes of withdrawal, in connection with lack of application, which is one of the main causes of failure in work, together, as indicating an absence of interest on the part of pupils in high school work, then it is incumbent upon our high schools to answer the charge that what they offer is uninteresting. If the work given in the high school came to the pupils in such a way as to arouse their interest it is not believed that 17 per cent. of the pupils would be indifferent to it, nor would 46.4 per cent. of the failures in work result from a lack of application on the part of the pupils. If any

of the subjects now presented in high school are in their nature essentially devoid of interest to boys and girls, and if in the act of teaching we can not throw around these subjects the charm of interest, indifference and lack of application will continue to cause withdrawals and failures as long as pupils are required to pursue these subjects. High school instruction will continue to be for the few at the expense of the many. Different subjects appeal to different pupils with varying degrees of interest. What is interesting to one pupil is often positively distasteful to another. As a means of holding more pupils till the course of study is completed, it seems necessary to abandon the rigid course of study, and to offer instead a wider choice of electives, not adhering too closely to the theory of equivalence of subjects, allowing the pupil more freedom in substituting what attracts him for what repels. When this can be done there will be less indifference and lack of application. Lack of interest must be set down as one of the chief causes that lead pupils to desert the high school. The high school must do what is in its power to remove this condition.

INABILITY.

Again our statistics show that 33.9 per cent. of the failures in high school work are due to inability. To do secondary work successfully requires a higher degree of intellectual ability than is usually requisite for work in the common branches. That a considerable number of pupils succeed by "hook or crook" in getting into high school, who, either from lack of native ability or from being undeveloped, are totally incapable, intellectually, of carrying the high school work now offered is a fact that appeals to every teacher actually engaged in secondary work. It is an unpleasant condition to contemplate, but nevertheless it ought to be squarely met. Entrance to the high school should be more carefully guarded. Those who begin the work and show conclusively that they can not carry the work profitably should be politely but firmly notified that their energies can be more profitably expended in some other field. This is a condition for which the high school is not wholly responsible, nor can it entirely correct it.

These causes are, we believe, a partial explanation of withdrawals from our high school.

HIGH SCHOOL RECORDS.

In asking for the data herein submitted it was the wish of the sub-committee to present as completely as possible the actual status of the commissioned high school of the State, believing that a full exhibit of the present conditions would serve as the best attainable basis for farther discussion of the subject. A question that the committee had to decide at the outset was how far it dare go in calling for detailed information. The final decision was to ask abundantly and accept what the superintendents and principals felt disposed to contribute.

As stated in the announcement sent out with the questions, the committee felt that whatever value the report might possess would depend largely upon its completeness and accuracy. We were aware that we asked for information not generally recorded in the course of the pupil's school life. We believe, however, that if data not now a part of the school record could be made a part of it the interests of the school might be better subserved.

Attendance, punctuality, etc., are important items in any school report, but the question which the high school to-day must answer is why so few graduates are sent out. Let us put before the public statistics in answer to this query. If the large falling-off in attendance as we approach the senior year of the high school is because children are compelled to labor to support themselves or dependents, let our records show this. If ill health is the cause of withdrawal, let this be recorded, and let us see that sanitary conditions are improved and that the work demanded is in keeping with physical development of the pupils. If the course of study is responsible for the decrease in attendance, let us revise and adjust the work to the needs of present conditions, even though we must cast aside some of our theories regarding symetrical development of the powers of the mind. Whatever the cause of withdrawal may be, it ought to be a matter of record.

If a high school education of four years is worth to the youth of our State what we believe and assert it is worth, it is evident that too few young ladies and gentlemen who begin the work avail themselves of the advantage of its completion. Too many quit school before completing the high school course, and it is the duty of the high school to reconcile this fact with its claims of the value of high

school training. In the opinion of the sub-committee the road that leads to the explanation of the question why so few graduate, especially boys, from our high school, lies in accurate statistics, carefully compiled, covering the cause of withdrawals and failure in work. If the cause of the malady can be definitely ascertained, an intelligent physician ought to be able to prescribe so as to help the patient or frankly acknowledge the case incurable.

The sub-committee appreciate to the fullest extent the time and labor necessary to fill out the blanks called for in collecting the data on which this report is made, and desire to thank each and all who responded for the contributions made to this study.

Respectfully submitted,

W. H. Sanders,
John A. Wood.

BIBLIOGRAPHY OF SECONDARY SCHOOL LITERATURE.

The committee has thought that it might add some value to the report if at least a partial bibliography of subjects dealing with the problem of secondary education were given.

The high school question is becoming of increasingly greater importance. The past decade has been fruitful of discussion of this subject, and the twentieth century promises to see it receive still greater attention.

The present bibliography does not attempt to cover the field, but the most important contributions, and especially those that have appeared during the past ten years, are given.

The duplication of subjects in several cases is intentional.

It is hoped that those who are interested will be helped in their study by this list.

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